SITE ASSESSMENT PROGRAM
SITE-SPECIFIC
FINAL QUALITY ASSURANCE PROJECT PLAN
FOR
SURFACE AND SUBSURFACE SOIL/SOURCE, GROUND WATER AND SEDIMENT SAMPLING
JARD COMPANY INC
SITE REASSESSMENT
BENNINGTON, VERMONT

Prepared For:
U.S. Environmental Protection Agency
Region I
Office of Site Remediation and Restoration
5 Post Office Square, Suite 100
Boston, Massachusetts 02109-3912

EPA CONTRACT NO. EP-W-05-042
CERCLIS NO. VTD048141741
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TDD NO. 12-10-0008
TASK NO. 0850
DC NO. A-6813

Submitted By:
Weston Solutions, Inc. (WESTON®)
Region I
Superfund Technical Assessment and Response Team III (START)
3 Riverside Drive
Andover, MA 01810
Submittal Date: 18 February 2013

Region I START III
Reviewed and Approved:

Gerald A. Hornok
Site Leader

2/18/13
Date

John F. Kelly
Project Leader

2/18/2013
Date

EPA Region
Reviewed and Approved:

Martha Bosworth
Site Assessment Manager (SAM)

February 25, 2013
Date

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EPA = U.S. Environmental Protection Agency.
QA/QC = Quality Assurance/Quality Control.
No. = Number.
Fig. = Figure.
GQ = Generic Program QAPP.
SOP = Standard Operating Practice.
QAPP = Quality Assurance Project Plan.
EPA-NE = U.S. Environmental Protection Agency-New England.
pp. = Pages.
Sec. = Section.
DQO = Data Quality Objectives.

Quality Assurance Project Plan **CERCLIS No. VTD048141741**
Jard Company Inc **TDD No. 01-12-10-0008**
Bennington, Vermont **Work Order No. 20114-081-998-0850-40**

TASK SUMMARY

DATE OF TASKS

On-site reconnaissance – 20 November 2012
Sampling – To Be Determined, Early Spring (Depending on Weather)
EPA Region I Contact: Ms. Martha Bosworth Phone No. (617) 918-1407
State Contact: Ms. Patricia Coppolino Phone No. (802) 241-3967
Nearest Phone: START Mobile Telephone Phone No. (978) 621-1011

1.0 SITE DESCRIPTION

1.1 LOCATION

The Jard Company Inc (Jard) property is located at 259 Bowen Road in Bennington, Bennington County, Vermont (VT) (see Figure 1). The geographic coordinates of the property, as measured from the approximate center of the former building footprint, are 42° 53′ 21.5″ north latitude and 73° 11′ 21.9″ west longitude (see Figure 1). The Jard property is approximately 11.26 acres identified by the Town of Bennington, VT Tax Assessor's Office as Parcel 45017300. The property is bordered to the north by Bowen Road and an industrial property; to the east by a state of VT maintenance facility; to the south by the Walloomsac River, and to the west by recreational fields (baseball) (see Figure 2).

To reach the Jard property from the Weston Solutions, Inc. (WESTON®), Superfund Technical Assessment and Response Team III (START) office located in Andover, MA, merge onto I-93 S toward Boston, take exit 44B to merge onto I-495 S toward Lowell, take exit 29B to merge onto MA-2 W toward Leominster, continue on MA-2 W/Mohawk Trail, merge onto I-91 N via the ramp to White River Junction, take exit 2 for VT-9 W toward Brattleboro/Bennington, turn right onto N Branch St, take the 2nd right to stay on North Branch Street, continue onto Kocher Drive, turn right onto Bowen Road.

1.2 SITE DESCRIPTION

The 11.26-acre property currently includes an earthen (sand) capped former building footprint, a large pile of excavated material, and an earthen berm. From approximately 1969 to 1989, the property was the location of the Jard Company, which used the property for the manufacturing of small capacitors, small non-fluid transformers, and small motors. The property is listed under Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) Number (No.) VTD048141741, as the Jard Company. According to reports, no industrial operations have taken place at the property since 1989 and there is no current owner.

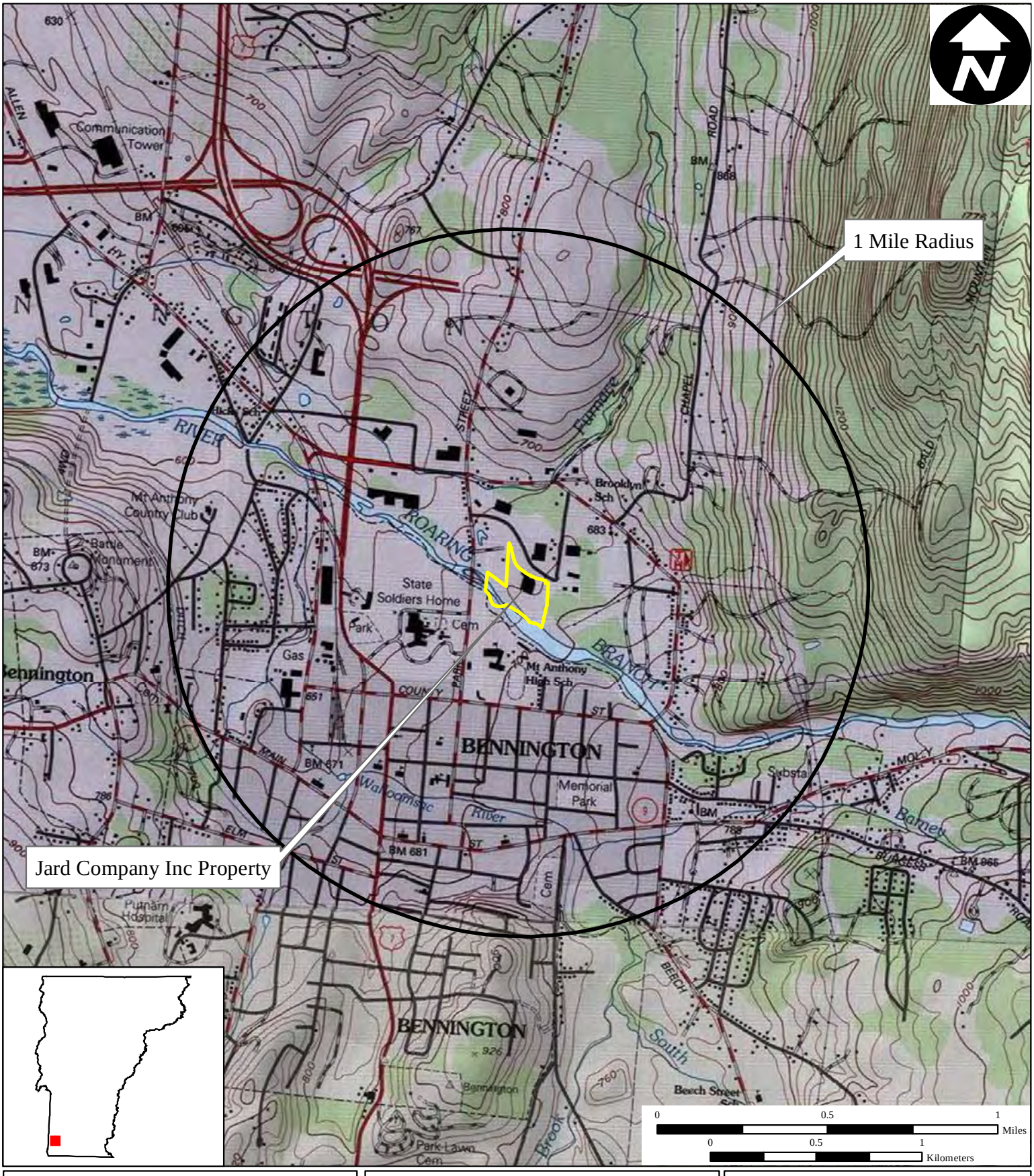


Figure 1

Site Location Map

Jard Company Inc
Bowen Road
Bennington, VT

EPA Region I
Superfund Technical Assessment and Response Team (START) III
Contract No. EP-W-05-042

TDD Number:	12-10-0008
Created by:	G. Hornok
Created on:	11 January 2013
Modified by:	G. Hornok
Modified on:	11 January 2013

Data Sources:
Topos: MicroPath/USGS
Quadrangle Name(s): Bennington, VT
All other data: START

WESTON SOLUTIONS

Figure 2

Site Area Map

Jard Company Inc
Bowen Road
Bennington, VT

EPA Region I
Superfund Technical Assessment and Response Team (START) III
Contract No. EP-W-05-042

TDD Number:	12-10-0008
Created by:	G. Hornok
Created on:	11 January 2013
Modified by:	G. Hornok
Modified on:	11 January 2013

LEGEND

0 100 200 300 400 500 Feet

Data Sources:
Imagery:Bing Aerial Maps
Topos: NA
All other data: START, VT ANR GIS

E:\Vt_gis\JardCoSR\MXD\QAPP\Figure 2-Area Map.mxd

The topography of the Jard property is relatively flat with a slight mounded earthen cover over the former building footprint. A large pile (approximately 35,000 cubic yards) is located on the eastern portion of the property and communications with the VT Department of Environmental Conservation (DEC) representative indicates that the material was excavated from the southern portion of the property during a floodplain restoration project. In addition, a large earthen berm is located along the southern property boundary.

There are currently no workers or residents on the property, which is currently abandoned. The earthen cover which is planted with grass is maintained (mowed) during the summer months by state personnel. The nearest residence is located north of the Jard property, at 414 Bowen Road, approximately 350 feet from the former building footprint. There are no schools or day-care facilities located within 200 feet of source areas located on the Jard property. One pre-school facilities, Learning Tree II, is located approximately 2,000 feet south, across the Walloomsac River. The nearest school, Mount Anthony Senior High School, is located approximately 500 feet south, across the Walloomsac River. Vehicular access to the Jard property is restricted by a concrete Jersey barrier installed across the northern property boundary and a large pile on the eastern portion of the property. Pedestrian access to portions of the property is partially restricted by natural barriers; however, pedestrian access to the property is generally unrestricted.

The nearest public drinking water supply wells are located within 0.5 and 1 mile of the property, and is a groundwater source for the Bennington Water Department. The nearest off-site private drinking water supply is not known.

1.3 OPERATIONAL AND REGULATORY HISTORY AND WASTE CHARACTERISTICS

The following Operational and Regulatory History was taken from the *Limited Phase II Environmental Site Assessment* completed by The Johnson Company and the *Corrective Action Feasibility Investigation (CAFI) Report Triad Approach-Based Targeted Brownfield Assessment* completed by Stone Environmental, Inc.

Beginning in 1969, the Jard Company began using the property and approximate 120,000-square foot (ft^2) building, to manufacture small capacitors, small non-fluid transformers, and small motors. Capacitors manufactured at the property were coated with zinc and, until 1978, filled with oils containing polychlorinated biphenyls (PCBs). Aroclor 1242 was initially used from 1969 to 1971 and was replaced by Aroclor 1016 in 1971. A VT DEC report in 1991 indicated that the property received an average of 550,000 pounds of PCBs annually between 1971 and 1974. In 1978, the use of Aroclor 1016 ceased, and was replaced by bis(2-ethylhexyl)phthalate (DEHP or DOP). In addition, chlorinated solvents were also used at the property.

Investigations to date have indicated PCB contamination within the former building structure and in soils on the property. Removal actions have been conducted to excavate contaminated soil on the property and to demolish the former building structure. A majority of the concrete building footprint still exists beneath the earthen (sand) cap located on the property. Recent investigations have indicated a ground water plume containing PCBs which begins on the Jard property and

extends west, parallel to the Walloomsac River (Roaring Branch). This plume has also contaminated down gradient surface soils and sediments.

No additional response actions have been conducted by EPA at the Jard property since the construction of the earthen (sand) cap. Contractors for VT DEC and EPA have installed ground water monitoring wells on and around the property and have collected ground water samples as recently as October 2012.

2.0 PREVIOUS WORK AT THE SITE

- *Wehran EnviroTech. Environmental Site Assessment. 1989.*
- *Wehran EnviroTech. Phase II Environmental Assessment. 1991.*
- *Weston Region 1 Technical Assistance Team for the Vermont Agency of Natural Resources and US EPA Region 1. Potential Hazardous Waste Site Assessment. 1991.*
- *TRC Companies, Inc. Site Inspection, Final Report. 1993.*
- *Vermont Agency of Natural Resources. Sediment Sampling. 1995.*
- *Weston START. Post Excavation Sampling. 1998.*
- *Weston START. Removal Program Preliminary Assessment/Site Inspection Report. 1998.*
- *Lockheed Martin. Technical Memorandum, Groundwater Investigation. 2000.*
- *Weston START. Removal Program Preliminary Assessment/Site Inspection Report. 2005.*
- *US EPA. Time Critical Removal Action. 2006-2007.*
- *The Johnson Company. Limited Phase II Environmental Site Assessment Report. 2010.*
- *Weston START. Removal Program Preliminary Assessment/Site Inspection Report for the Park Street Site. 2012.*
- *Weston START. Removal Program Preliminary Assessment/Site Inspection Report Addendum for the Park Street Site. 2012.*
- *The Johnson Company. Groundwater Sampling. October 2012*
- *Weston START and US EPA. Site Reassessment On-site Reconnaissance. November 2012*

3.0 TRIP OBJECTIVE

The objectives of the proposed Site Reassessment (SR) sampling are to collect appropriate analytical data to confirm or identify hazardous substances at the property and investigate whether the substances associated with source areas on the property have impacted human health and the environment, as well as to provide sufficient documentation to support a potential Hazard Ranking System (HRS)/National Priorities List (NPL) package. To date, a file review has been completed, and an on-site reconnaissance of the property was performed by WESTON® START personnel on 20 November. Based on existing historical information and previous sampling events, visual observations made during the on-site reconnaissance, and an evaluation of data gaps, this plan proposes the collection of additional source area samples to document PCB aroclors on site; ground water samples to confirm transport of the PCB aroclors off site toward residential and environmental targets; sediment samples along the wetland located west of Park Street to document ecological impacts; and surface soil samples on residential properties along Park Street to document potential impacts to human health. A completed EPA New England (EPA-NE) Data Quality Objectives (DQO) Form, which lists the DQOs and other pertinent information for this sampling event, is included as Appendix A.

4.0 PERSONNEL

Name	**Role**
Gerald Hornok (START)	Site Leader, Sample Custodian, Sample Documentation, Sampler, Equipment Decontamination
John Kelly (START)	Project Leader, Site Health and Safety Coordinator (SHSC), Sampler, Equipment Decontamination
Carolyn Imbres (START)	Sampler, Sample Custodian, Site QA Officer, Equipment Decontamination
TBD (START)	Sampler, Equipment Decontamination
TBD (START)	Sampler, Equipment Decontamination
TBD (START)	Sampler, Equipment Decontamination
TBD (START)	Sampler, Equipment Decontamination

The START Site Leader (SL) will be responsible for coordinating field sampling activities. SLs report directly to the Project Leaders (PLs) either in the office or in the field, and interface directly with the EPA Site Assessment Managers (SAMs). The SLs will be responsible for preparing and signing site-specific Quality Assurance Project Plans (QAPPs), knowing and applying the Generic Program and site-specific QAPP; following appropriate field practices and applicable established procedures and methods; procuring Subcontractor services via Requests for proposal (RFPs) (as needed); and documenting all deviations from standard procedures or methods. The SL will also be responsible for completeness and accuracy of the Chain-of-Custody (COC) record, submitting all draft and final reports/documents (i.e., Trip Report, SR Report, etc.) for review, and reporting major quality problems and progress to the START Quality Assurance Officer (QAO) or Program Manager (PM).

Figure 3 shows the generalized lines of communication during sampling activities. START SLs receive Technical Direction Document (TDD) assignments from the PM or the PLs. Following EPA and State approval of the site-specific QAPPs, the SLs coordinate sampling activities with their respective PL, Lead Chemist, Health and Safety Officer (HSO), and Subcontracts Administrator. The SL is the main point of contact within START for the EPA SAM. Laboratory procurement of subcontract Delivery of Analytical Services (DAS) laboratories, scheduling of Contract Laboratory Program (CLP) laboratories, and scheduling analyses at the EPA Office of Environmental Measurement and Evaluation (OEME) is performed by the Lead Chemist, working in conjunction with the SL and PL. The Lead Chemist communicates directly with DAS laboratory personnel, the EPA Regional Sample Control Coordinator (RSCC), and the START Subcontracts Administrator.

If Subcontracted services are required via an RFP, the SL and PL work with the Subcontracts Administrator to procure the services needed. The sampling team members (including samplers, sample custodians, Geoprobe operators, etc.) report directly to the SLs.

Following EPA approval of the site-specific QAPP and prior to conducting sampling activities, a pre-sampling meeting will be held by START team members to discuss the proposed sampling strategy and site health and safety issues. Attendees of the pre-sampling meeting will include the START PL, SL, Lead Chemists, samplers, QAO, PM, and HSO or their designee. During the pre-sampling meeting, the SL will discuss the site history, contaminants of concern, sampling methodology, individual roles and responsibilities, sample shipment and/or delivery, health and safety issues, and lines of communication anticipated during the sampling event. A project personnel sign-off page, indicating that appropriate members of the START sampling team have read and understand the planned approach and work activities documented in this site-specific QAPP, is shown in Table 1.

5.0 TECHNICAL APPROACH

5.1 ON-SITE RECONNAISSANCE

On 20 November 2012, an on-site reconnaissance was conducted at the property, during which WESTON personnel conducted a walk-through of the property with representatives from EPA and the VT DEC. During the reconnaissance, personnel inspected the on-site earthen (sand) cap area which covers the former building footprint, as well as the piled potential source material located on the eastern portion of the property. In addition, downgradient residential and undeveloped properties were observed and noted to be potential targets for contaminated ground water releases. The On-site Reconnaissance Checklist (Table 2) was used during the reconnaissance.

FIGURE 3
ORGANIZATIONAL CHART
SITE ASSESSMENT PROGRAM

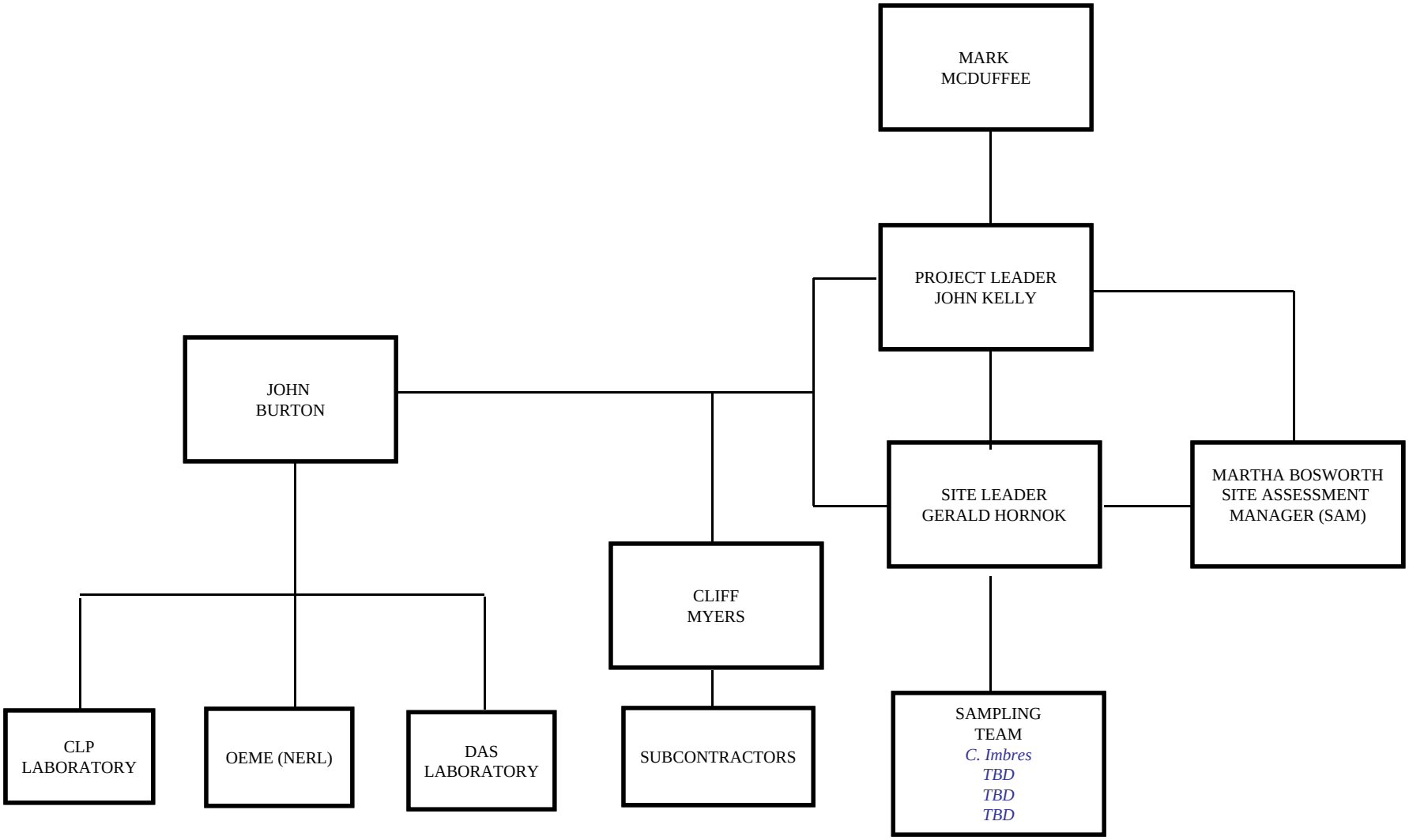


Table 1

Project Personnel Sign-off Sheet

Project Personnel	Title	Telephone Number	Signature	Date QAPP Read	QAPP Acceptable as Written
John F. Kelly	Project Leader/SHSO/Sampler	(978) 552-2122			
Gerald Hornok	Site Leader/ Sample Custodian/Sampler	(978) 552-2115			
Carolyn Imbres	Sampler /Sample Custodian/Site QA Officer	(978) 552-2112			
START Member TBD	Sampler	(978) 552-2100			
START Member TBD	Sampler	(978) 552-2100			
START Member TBD	Sampler	(978) 552-2100			
START Member TBD	Sampler	(978) 552-2100			
Paul Callahan	HSO	(978) 552-2129			
Mark McDuffee	Program Manager	(978) 552-2110			
John Burton	Lead Chemist	(978) 552-2130			
Cliff Myers	Equipment Manager	(978) 552-2133			

Table 2

On-site Reconnaissance Checklist*

1. Verify location of property on a U.S. Geological Survey topographic map.
2. Monitor ambient air in accordance with the Site Health and Safety Plan.
3. Draw a site sketch of the property.
4. Determine the approximate physical dimensions of any on-site sources (length, width, height, depth).
5. Note the quantity, contents (if labeled), and condition of any source areas.
6. Note any containment features which would prevent migration from sources to air, ground water, and surface water.
7. Determine whether there are any barriers limiting access to the source areas of contamination.
8. Determine the distance to the closest regularly occupied building, as measured from any on-site source which might emit contaminants to the air.
9. Determine the number of residences, schools, and day-care facilities located within 200 feet of source areas.
10. Locate and note the condition of all on-site monitoring wells (if applicable).
11. Look for evidence of surface soil contamination, such as stained soil or leachate outbreaks.
12. Note any stressed vegetation.
13. Determine overland path to the surface water.
14. Identify, measure, and flag sample locations based on site conditions (as necessary).
15. Determine the number of on-site employees.
16. Determine the location of the nearest private well.
17. Note all processes that have occurred on site.
18. Note all chemicals used in processes.
19. Note other off-site potential sources of contamination.

* If during the course of the on-site reconnaissance a **POTENTIAL DIRECT CONTACT THREAT** is identified, immediately notify the EPA Emergency Response Desk at (617) 918-1236 and ask for the Response Duty Officer (RDO). Inform the RDO of potential direct contact threat and any other pertinent site information. If you are not sure whether or not a potential direct contact threat exists, contact your Project Leader or another Project Leader in the START office immediately.

5.2 SAMPLING

1. The field team will establish a command post upwind of suspected source areas, if possible.
2. The SHSC or designee will perform calibration checks of monitoring instruments.
3. The samplers will collect samples while the Site Leader or designee documents activities in the logbook, completes analytical laboratory forms, and assists with decontamination of the sampling equipment between sampling locations.
4. The sample custodian or their designee will coordinate field screening activities, sample preparation, data management, and shipping activities.

This site-specific QAPP proposes the collection of soil/source, sediment, and residential surface soil samples to be screened on-site via field laboratory methods for PCB aroclors, with a subset of samples also submitted for fixed laboratory analysis. In addition, ground water samples will be collected for PCB aroclor fixed laboratory analysis. Based on field observation and PCB screening results, soil/source, sediment, and residential surface soil samples will be selected and submitted for fixed laboratory analysis. The general sample locations and numbers have been proposed based on available background information and visual observations made during the on-site reconnaissance. The proposed on-site soil/source sample location areas are shown on Figure 4A; proposed potential ground water sample wells are depicted on Figure 4B; proposed sediment sample areas on Figure 4C; and the proposed surface soil sample areas are outlined on Figure 4D.

Collection of soil/source samples will help to characterize source areas located on the Jard property, while ground water samples will document release and transport mechanism of site related contaminants toward downgradient targets. Collection of sediment and surface soil samples will help to characterize and document potential release and impacts to targets. Sample locations may vary based on site conditions and characteristics. A summary description of the proposed soil/source, ground water, sediment, and surface soil samples are shown in Tables 3, 5, 7, and 10. All solid matrix samples (soil/source, sediment, and surface soil) will be analyzed on-site for PCB aroclors via field laboratory methods. Based on field analytical results, a subset of the collected samples will be submitted for fixed laboratory PCB aroclor analysis. Ground water samples will be submitted directly to the fixed laboratory for PCB aroclor analysis as field methods are unavailable. Additional on-site visual observations and field screening methods may also necessitate additional sampling.

To better characterize PCB aroclors present in the samples collected as part of the SR, a subset of samples from media collected for fixed laboratory analysis will be submitted for PCB congener analysis via the Contract Laboratory Program (CLP). This analysis will help to quantify individual congeners within the coeluted weathered, degraded, and metabolized PCB mixtures on the property and to support future risk assessment. The number of samples to be submitted for this analysis is to be determined.

Figure 4A

Proposed Soil/Source Sample Areas

Jard Company, Inc.
Bowen Road
Bennington, VT

EPA Region I
Superfund Technical Assessment and Response Team (START) III
Contract No. EP-W-05-042

TDD Number:	12-10-0008
Created by:	G. Hornok
Created on:	11 January 2013
Modified by:	G. Hornok
Modified on:	11 January 2013

LEGEND

Former Building Foundation

N

0 25 50 100 150 200 Feet

Data Sources:
Imagery: Bing Aerial Imagery
Topos: NA
All other data: START, VT ANR GIS

WESTON SOLUTIONS

E:\Vt_gis\JardCoSR\MXD\QAPP\Figure 4A-Source.mxd

Figure 4B

Groud Water Monitoring Well Locations

Jard Company, Inc.
Bowen Road
Bennington, VT

EPA Region I
Superfund Technical Assessment and Response Team (START) III
Contract No. EP-W-05-042

TDD Number:	12-10-0008
Created by:	G. Hornok
Created on:	11 January 2013
Modified by:	G. Hornok
Modified on:	11 January 2013

LEGEND

- Jard Company Inc Property
- Former Building Foundation
- Monitoring Wells

N

0 50 100 200 300 400 Feet

Data Sources:
Imagery: Bing Aerial Imagery
Topos: NA
All other data: START, VT ANR GIS

E:\Vt_gis\JardCoSR\MXD\QAPP\Figure 4B-Ground Water.mxd

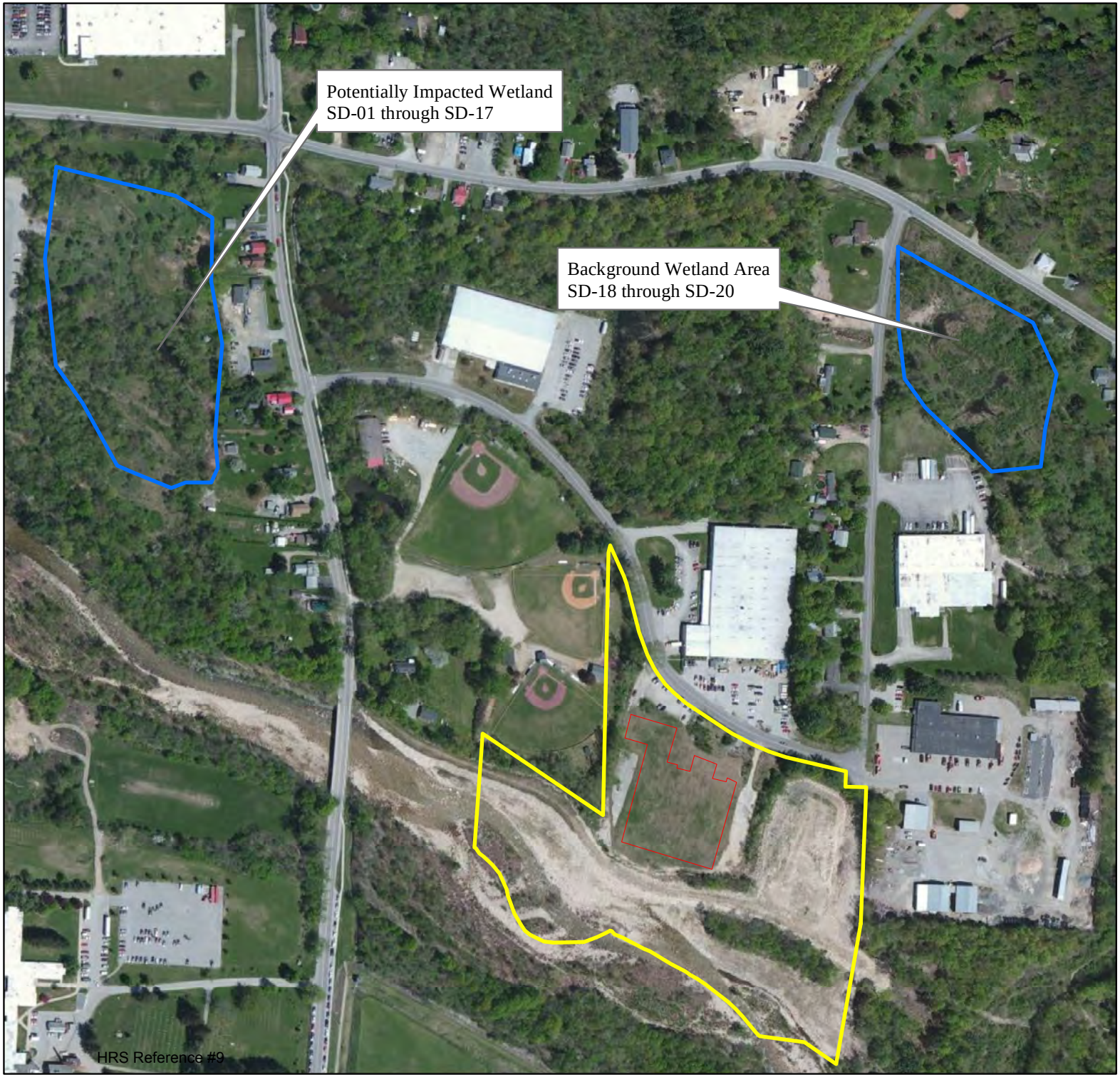


Figure 4C

Proposed Sediment Sample Areas

Jard Company, Inc.
Bowen Road
Bennington, VT

EPA Region I
Superfund Technical Assessment and Response Team (START) III
Contract No. EP-W-05-042

TDD Number:	12-10-0008
Created by:	G. Hornok
Created on:	11 January 2013
Modified by:	G. Hornok
Modified on:	11 January 2013

LEGEND

- Jard Company Inc Property
- Former Building Foundation

N

0 50 100 200 300 400 500
Feet

Data Sources:
Imagery:Bing Aerial Imagery
Topos: NA
All other data: START, VT ANR GIS

WESTON SOLUTIONS

E:\Vt_gis\JardCoSR\MXD\QAPP\Figure 4C-Sediment.mxd

Figure 4D

Proposed Surface Soil Sampling Properties

Jard Company, Inc.
Bowen Road
Bennington, VT

EPA Region I
Superfund Technical Assessment and Response Team (START) III
Contract No. EP-W-05-042

TDD Number:	12-10-0008
Created by:	G. Hornok
Created on:	11 January 2013
Modified by:	G. Hornok
Modified on:	11 January 2013

LEGEND

- Jard Company Inc Property
- Former Building Foundation
- Background Surface Soil Parcels
- Soil Exposure Parcels

N

0 25 50 100 150 200 250 300 350 400
Feet

Data Sources:
Imagery: Bing Aerial Imagery
Topos: NA
All other data: START, VT ANR GIS

WESTON SOLUTIONS

E:\Vt_gis\JardCoSR\MXD\QAPP\Figure 4D-Surface Soil.mxd

After sampling locations have been identified, START will either measure the distance and direction of the selected sampling locations in relation to the nearest fixed reference point on site, or the sampling locations will be determined using a Global Positioning System (GPS) unit.

As part of the preparation of this site-specific QAPP, START utilized START Standard Operating Procedures (SOPs) to conduct sampling activities; operate various field screening instruments, and field screening kits/methods. (NOTE: When START procures equipment from various vendors, the manufacturer's instructions and guidance will be followed). These SOPs were developed by START and are included in Appendices C through AC in the Generic Program QAPP. A list of SOPs used to prepare this site-specific QAPP is shown in Table 12, Project Sampling SOP Reference Table.

5.2.1 Source Sampling

START proposes the collection of **up to** 64 soil/source samples (SO-01 through SO-64), including four field duplicates, from **up to** 60 locations on the Jard property (see Figure 4A). Multiple samples may be collected from each sample location but at varying depths. The collection of on-site soil/source samples will document the PCB aroclor contaminants of concern and further characterize the capped former footprint materials, on-site soils, and the staged soil pile located on the eastern portion of the property. The individual soil/source field screening sample locations will be determined in the field, but the general areas have been selected based on available background information, previous laboratory analytical and screening data generated as part of earlier investigations, and recent analytical data from soil boring samples collected during installation of monitoring wells on the property. Field screening soil/source samples SO-01 through SO-30, SO-61, and SO-62 will be collected from the staged soil pile located on the eastern portion of the property, which represents excavated materials from an area located south of the former building footprint. Field screening soil/source samples SO-31 through SO-60, SO-63, and SO-64 will be collected from areas on or around the former building footprint.

In addition, **up to** 10 field screening soil samples (SO-65 through SO-75) will be collected from areas upgradient and presumably outside the extent and influence of on-site source areas on the property, for background comparison purposes. Since the on-site source areas are likely to include native soil, these samples are necessary to determine the background concentrations of substances in soils. In addition to proposed background field screening soil samples SO-65 through SO-75, background surface soil samples collected as part of the Soil Exposure Pathway (see Section 5.2.4), may also be used for comparison purposes.

Soil/source samples will be collected using a stainless-steel hand auger or Geoprobe macrocore. VOC field screening will be conducted using a Toxic Vapor Analyzer (Model TVA-1000B, combined PID and FID) and/or a MultiRAE Plus (VOCs, LEL, O_2, CO, and H_2S meters). The exact sample interval will be determined based on air monitoring results and/or visual observations. Characteristics of each soil boring will be documented in a field logbook or field data sheets for future reference. Soil/source samples collected using the Geoprobe® unit will be collected in a 2-inch-diameter acetate sleeve.

START will homogenize each soil/source sample in a stainless-steel bowl, and remove and prepare one aliquot for PCB aroclor screening analysis via the EPA mobile laboratory. The remaining material will be placed in a labeled and sealed polyethylene bag pending mobile laboratory results. On-site PCB screening data will be utilized to select soil/source samples and the background soil samples to be submitted for fixed laboratory analysis. Based on the initial screening results, additional samples may be collected. Dedicated or decontaminated sample collection equipment will be used at each sample location to minimize cross-contamination.

Based on a review of field screening data and discussions with the EPA SAM and START Lead Chemist, a subset of the soil/source and background soil samples collected will be selected (**up to** 30) and submitted to a CLP or Delivery of Analytical Services (DAS) Laboratory for manual soxhlet extraction and PCB aroclor analyses. The CLP and DAS laboratory reporting limits for PCB aroclors in soil are included in Appendix B. Proposed soil/source sample areas are illustrated in Figure 4A and presented in Table 3. Descriptions of sample analyses, sample containers, and sample preservation are summarized in Tables 4 and 13.

Table 3
Sample Description/Rationale – Soil/Source Samples

Sample Location	Description/Rationale
MATRIX: Soil/Source	
SO-01 through SO-30	Grab soil samples collected using a hand auger or Geoprobe from the excavated soil pile located on the eastern portion of the Jard property, to determine the presence of any hazardous substances
SO-31 through SO-60	Grab soil sample collected using a Geoprobe from areas on or around the former building footprint, to determine the presence of any hazardous substances.
SO-61	Field duplicate of one sample in range SO-01 through SO-30 for quality control.
SO-62	Field duplicate of one sample in range SO-01 through SO-30 for quality control.
SO-63	Field duplicate of one sample in range SO-31 through SO-60 for quality control.
SO-64	Field duplicate of one sample in range SO-31 through SO-60 for quality control.
SO-65 through SO-75	Grab soil sample collected using a hand auger or Geoprobe from areas located outside of the influence of contaminants from the Jard property, for background comparison.
MATRIX: Aqueous QA/QC	
RB-01	Soil/source sampling equipment (hand auger) rinsate blank sample, collected for quality control (Day 1).
RB-02	Soil/source sampling equipment (Geoprobe) rinsate blank sample, collected for quality control (Day 1).
RB-03	Soil/source sampling equipment (hand auger) rinsate blank sample, collected for quality control (Day 2).
RB-04	Soil/source sampling equipment (Geoprobe) rinsate blank sample, collected for quality control (Day 2).
RB-05	Soil/source sampling equipment (hand auger) rinsate blank sample, collected for quality control (Day 3).
RB-06	Soil/source sampling equipment (Geoprobe) rinsate blank sample, collected for quality control (Day 3).

Table 3
Sample Description/Rationale – Soil/Source Samples (Concluded)

Sample Location	Description/Rationale
MATRIX: Aqueous QA/QC	
RB-07	Soil/source sampling equipment (hand auger) rinsate blank sample, collected for quality control (Day 4).
RB-08	Soil/source sampling equipment (Geoprobe) rinsate blank sample, collected for quality control (Day 4).
RB-09	Soil/source sampling equipment (hand auger) rinsate blank sample, collected for quality control (Day 5).
RB-10	Soil/source sampling equipment (Geoprobe) rinsate blank sample, collected for quality control (Day 5).
Sample Location	**Description/Rationale**
MATRIX: Performance Evaluation	
PE-01	Solid PE sample for PCB aroclors [Aroclor-1242] (soil/source samples).
PE-02	Solid PE sample for PCB aroclors [Aroclor-1016] (soil/source samples).
PE-03	Solid PE sample for PCB aroclors [Aroclor-1260] (soil/source samples).
PE-04	Solid PE sample for PCB aroclors [Aroclor-1242] (soil/source samples).
PE-05	Solid PE sample for PCB aroclors [Aroclor-1016] (soil/source samples).
PE-06	Solid PE sample for PCB aroclors [Aroclor-1260] (soil/source samples).

QA/QC = Quality Assurance/Quality Control. PCB = Polychlorinated Biphenyl.

Table 4
Sample Analysis, Bottle Type, and Preservative – Soil/Source Samples

Location	Sample Bottles	Analysis	Preservative
MATRIX: Soil/Source			
SO-01 through SO-75	1 × 25-oz poly bag*	PCB Aroclors	Ice
SO-01 through SO-75	1 × 4-oz poly bag	PCB Aroclors (field)	Ice
MATRIX: Aqueous QA/QC			
RB-01 through RB-10	2 × 1-L amber bottle	PCB Aroclors	Ice

PCBs = Polychlorinated Biphenyls. oz. = Ounce.
QA/QC = Quality Assurance/Quality Control L = Liter.

* Sufficient volume of material will be collected and bagged for sample aliquots to be submitted for fixed laboratory polychlorinated biphenyl (PCB) aroclor analysis [one 8-ounce (oz) amber jar plus any additional material for quality control volume] and PCB congener analysis (one 4-oz amber jar). Upon review of field screening data results, up to 30 soil/source samples will be selected and material transferred to 8-oz jars for fixed laboratory PCB aroclor analysis. The remaining bagged material will remain stored pending receipt and review of laboratory results and discussions with the EPA Site Assessment Manager (SAM) and Superfund Technical Assessment and Response Team III (START) lead chemist. Once samples have been selected, the bagged material for the selected samples will be jarred and submitted for PCB aroclor congener analysis. See Table 13 for sample requirements.

5.2.2 Ground Water Pathway

Ground water samples have been collected from on-site and off-site ground water monitoring wells as part of previous investigations associated with the Jard property. Analytical results from previous ground water sampling events have indicated that ground water beneath the property, as well as downgradient of the property, has been documented to be impacted by a release of hazardous substances (PCBs) which are at least partially attributable to on-site sources (see Appendix C). In addition, ground water migration appears to be the mechanism by which site contaminants have been transported, released, and impacted down gradient targets (sediment, surface water, and residential surface soils).

As part of this site-specific QAPP, START proposes the collection of **up to** 10 groundwater samples to document site-related contaminants in ground water. START proposes the collection of 10 groundwater samples (GW-01 through GW-10), including a field duplicate, from groundwater monitoring wells installed on and off the property as part of historical sampling events. No known groundwater monitoring wells previously installed or identified on the Jard property indicate reference/background groundwater conditions, however START will collect two off-site ground water samples (GW-09 and GW-10) to utilize for background comparison purposes.

After unlocking each monitoring well, the well headspace will be screened for VOCs using a Toxic Vapor Analyzer (Model TVA-1000B, combined PID and FID) and/or MultiRAE. Following VOC screening, the static water level and the total depth of the well will be measured to the nearest 0.01 foot. In addition, an oil/water interface probe will be used within each well to determine if non-aqueous phase liquids are present. START personnel will purge the well using bladder pumps while monitoring temperature, specific conductivity, pH, oxidation reduction potential, dissolved oxygen, and turbidity at 5-minute intervals. Wells will be purged until the above parameters stabilize. If parameters do not stabilize within 60 minutes of purging, the sample will be collected per the SOP. The samples will then be collected using a bladder pump; utilizing low-flow techniques, dedicated tubing, and a dedicated Y-valve, prior to the flow-through cell containing the probes used to measure the ground water parameters. Samples will be shipped to the CLP or DAS Laboratory for PCB aroclor analysis. The CLP and DAS Laboratory reporting limits for PCB aroclors in groundwater are included in Appendix B. Potential overburden groundwater sample locations are illustrated on Figure 4B and sampling rationale is outlined in Table 5. The exact sample locations will be determined in the field. A description of sample containers and preservatives is summarized in Table 6 and 13.

Table 5
Sample Description/Rationale – Ground Water Samples

Sample Location	Description/Rationale
MATRIX: Ground Water	
GW-01 through GW-07	Grab ground water samples collected using low flow techniques from groundwater monitoring wells installed on and/or around the Jard property, to determine if a release of hazardous substances has occured.

Table 5
Sample Description/Rationale – Ground Water Samples (Concluded)

Sample Location	Description/Rationale
MATRIX: Ground Water	
GW-08	Field duplicate of one sample from GW-01 through GW-07, collected for quality control.
GW-09 and GW-10	Grab ground water samples collected from monitoring wells outside of the influence of contaminants from the Jard property, for background comparison.
MATRIX: Aqueous QA/QC	
RB-20	Ground water sampling equipment (bladder pump) rinsate blank sample, collected for quality control (Day 1).
RB-21	Ground water sampling equipment (bladder pump) rinsate blank sample, collected for quality control (Day 2).
RB-22	Ground water sampling equipment (bladder pump) rinsate blank sample, collected for quality control (Day 3).
Sample Location	**Description/Rationale**
PE-10	Aqueous PE sample for PCB aroclors [Aroclor-1254] (ground water ampules).
PE-11	Aqueous PE sample for PCB aroclors [Aroclor-1242] (ground water ampules).
PE-12	Aqueous PE sample for PCB aroclors [Aroclor-1016] (ground water ampules).

QA/QC = Quality Assurance/Quality Control. PCB = Polychlorinated Biphenyl.

Table 6
Sample Analysis, Bottle Type, and Preservative – Ground Water Samples

Location	Sample Bottles	Analysis	Preservative
MATRIX: Ground Water			
GW-01 through GW-10	2 × 1-L amber*	PCB Aroclors	Ice
MATRIX: Aqueous QA/QC			
RB-20 through RB-22	2 × 1-L amber bottle	PCB Aroclors	Ice

PCBs = Polychlorinated Biphenyls. L = Liter.
QA/QC = Quality Assurance/Quality Control

* Sufficient volume of material will be collected for one quality assurance ground water sample to be submitted to a fixed laboratory for PCB aroclor analysis [including matrix spike/matrix spike duplicate quality control volume (6 × 1-L amber)]. Which specific sample will be collected for quality assurance will be determined in the field based on site conditions.

5.2.3 Surface Water Pathway

START proposes the collection **up to** 25 sediment samples (SD-01 through SD-25) for PCB field screening analysis, including two field duplicates, from areas associated with the wetland

located west of the Jard property (see Figure 4c). In addition, up to three background sediment samples (SD-26 through SD-30) will be collected from a wetland area located northeast of the property and field screened for PCB aroclors (see Figure 4C). The sediment sample locations have been selected based on the results of the EPA EPRB PA/SI samples collected previously throughout the wetland area, which documented areas of elevated PCB concentrations. The sediment sample locations in the wetland west of the Jard property have been selected to document potential impacts to a sensitive environment (wetland) from on-site sources.

Sediment samples, SD-01 through SD-25, will be collected for field screening from the wetland area located west of the residential properties along Park Street within an area suspected to receive contaminants from the Jard property via groundwater to surface water flow. Three background sediment samples, SD-26 through SD-30 will be collected for field screening from a wetland area located northeast of the Jard property, to be used to determine background concentrations of hazardous substances in wetland sediments for comparison purposes.

Sediment samples will be collected in order, beginning from the most downstream sample location and proceeding upstream (where applicable). To avoid cross-contamination, the sampler will remain downstream with respect to the sample location while collecting the sample. Sediment samples will be collected using a stainless-steel hand auger from a depth interval within 0 to 12 inches below the sediment water interface, with the exact depth intervals determined based on the results of previous co-located or nearby samples. START will homogenize each sediment sample in a stainless-steel bowl, and remove and prepare one aliquot for PCB field screening analysis. The remaining volume will be stored in a labeled bag to be prepared and sent to a CLP or DAS laboratory pending field screening analysis results. To maximize the percent of solids in each sample, excess water will be decanted from the sample container prior to sediment homogenization. Dedicated or decontaminated sample collection equipment will be used at each sample location to minimize cross-contamination.

On-site PCB aroclor screening will be utilized to select sediment samples for fixed laboratory PCB aroclor analysis. Based on the results of the screening analysis, alternate/additional locations may be identified for sample collection; or alternate/additional wetland areas, potentially on a different property, may be identified for background sample locations. In addition, sediment samples will be screened for VOCs using a MultiRae Plus (VOCs, LEL, O_2, CO, and H_2S) meter. Water quality parameters (pH, temperature, specific conductivity, and turbidity) and sediment characteristics for each sample will be recorded in the field logbook or on field data sheets.

Based on a review of field screening data and discussions with the EPA SAM and START Lead Chemist, a subset of the sediment samples collected will be selected (**up to** 15) and submitted to a CLP or DAS Laboratory for manual soxhlet extraction and PCB aroclor analyses. The CLP and DAS laboratory reporting limits for PCBs are included in Appendix B. Proposed sediment sample are illustrated in Figure 4C and presented in Table 7. Descriptions of sample analyses, sample containers, and sample preservation are summarized in Tables 8 and 13.

Table 7
Sample Description/Rationale – Sediment Samples

Sample Location	Description/Rationale
MATRIX: Sediment	
SD-01 through SD-23	Grab sediment sample collected using a hand auger from a wetland area located west of the Jard property to document a release of hazardous substances associated with site sources.
SD-24	Field duplicate of one sample from SD-01 through SD-23, collected for quality control.
SD-25	Field duplicate of one sample from SD-01 through SD-23, collected for quality control.
SD-26 through SD-30	Background sediment samples collected from a wetland area located northeast of the Jard property and presumably outside of the influence of contaminants from the property, for comparison purposes.
MATRIX: Aqueous QA/QC	
RB-30	Sediment sampling equipment (hand auger) rinsate blank sample, collected for quality control (Day 1).
RB-31	Sediment sampling equipment (hand auger) rinsate blank sample, collected for quality control (Day 2).
RB-32	Sediment sampling equipment (hand auger) rinsate blank sample, collected for quality control (Day 3).
Sample Location	**Description/Rationale**
MATRIX: Performance Evaluation	
PE-20	Solid PE sample for PCB aroclors [Aroclor-1260] (sediment samples).
PE-21	Solid PE sample for PCB aroclors [Aroclor-1242] (sediment samples).
PE-22	Solid PE sample for PCB aroclors [Aroclor-1016] (sediment samples).

QA/QC = Quality Assurance/Quality Control. PCB = Polychlorinated Biphenyl.

Table 8
Sample Analysis, Bottle Type, and Preservative – Sediment Samples

Location	Sample Bottles	Analysis	Preservative
MATRIX: Soil/Source			
SD-01 through SD-30	1 × 30-oz poly bag*	PCB Aroclors	Ice
SD-01 through SD-30	1 × 4-oz amber jar	PCB Aroclors (field)	Ice

Table 8
Sample Analysis, Bottle Type, and Preservative – Sediment Samples (Concluded)

Location	Sample Bottles	Analysis	Preservative
MATRIX: Aqueous QA/QC			
RB-30 though RB-32	2 × 1-L amber bottle	PCB Aroclors	Ice

PCBs = Polychlorinated Biphenyls.
QA/QC = Quality Assurance/Quality Control
oz. = Ounce.
L = Liter.

* Sufficient volume of material will be collected and bagged for sample aliquots to be submitted for fixed laboratory polychlorinated biphenyl (PCB) aroclor analysis [one 8-ounce (oz) amber jar plus any additional material for quality control volume] and PCB congener analysis (one 4-oz amber jar). Upon review of field screening data results, up to 15 sediment samples will be selected and material transferred to 8-oz jars for fixed lab PCB aroclor analysis. The remaining bagged material of the samples submitted for fixed laboratory analysis will remain stored pending receipt and review of laboratory results and discussions with the EPA Site Assessment Manager (SAM) and Superfund Technical Assessment and Response Team III (START) lead chemist. Once samples have been selected, the bagged material for the selected samples will be jarred and submitted for PCB aroclor congener analysis. See Table 13 for sample requirements.

5.2.4 Soil Exposure

START proposes the collection of surface soil samples from **up to** 11 residential properties (P-001 through P-011) to characterize the soil exposure pathway. START will collect **up to** 10 surface soil samples from each of the 11 properties listed on Table 9 for PCB aroclor field screening analysis. Each surface soil sample will be collected from within 200 feet of the residence located on the property. A subset of these samples will be selected and submitted to a CLP or DAS laboratory for PCB aroclor analysis.

Table 9
Proposed Residential Properties for Soil Exposure Pathway Sampling

Property Address	Parcel ID	START Parcel No.	Residential Population
Soil Exposure Target Parcels			
440 Park Street	44505600	001	1
436 Park Street	44505500	002	1
432 Park Street	44505400	003	2
428 Park Street	44505300	004	2 or more
418 Park Street	44505000	005	1
414 Park Street	44504900	006	2
410 Park Street	44504800	007	6
408 Park Street	44504700	008	Approximately 2
406 Park Street	44504600	009	4
402 Park Street	44504500	010	2
403 Park Street	44507200	011	2

Table 9
Proposed Residential Properties for Soil Exposure Pathway Sampling (Concluded)

Property Address	Parcel ID	START Parcel No.	Residential Population
Background Surface Soil Samples			
594 Bowen Road	45018402	20	Unknown
414 Bowen Road	45018000	21	Unknown
390 Bowen Road	45017900	22	Unknown

No. Number. ID = Identification.

START will homogenize each sample in a stainless-steel bowl, and remove and prepare one aliquot for PCB field screening analysis. The remaining additional material will be placed in a labeled and sealed polyethylene bag pending PCB aroclor field screening results. Based on the results of the PCB aroclor screening analysis, and in consultation with the EPA SAM and START Lead Chemist, **up to** three surface soil samples from each property, and including two field duplicates, will be selected for submittal to a CLP or DAS Laboratory for PCB aroclor analysis. Samples submitted for CLP or DAS laboratory analysis will be used to document exposure of residential target populations to surface soils impacted by contaminants that are at least partially attributable to site sources. Analytical results of PCB aroclor field screening analysis will be used to support the characterization of the extent of observed surface soil contamination on residential properties.

In addition, up to 15 background surface soil samples from three properties (P-020 through P-022) will be collected from properties located north of the Jard property, at depths of 0 to 2 feet bgs, from locations presumably outside the influence of potential on-site source areas (see Figure 4D). Background surface soil samples will be collected to determine background concentrations of hazardous substances in similar soil conditions for comparison to surface soil target samples. Background surface soil samples will be screened on-site for PCBs. Based on the initial screening results and soil similarity observations, additional samples may be collected, potentially from different properties, prior to the selection of samples submitted for laboratory analysis. Background surface soil samples collected from the three properties may also be used for comparison to soil/source samples collected from on-site source areas.

Surface soil samples will be collected using a stainless-steel hand auger. START will homogenize each surface soil sample in a stainless-steel bowl, and remove and prepare one aliquot for PCB aroclor screening analysis via the EPA mobile laboratory. The remaining material will be placed in a labeled and sealed polyethylene bag pending mobile laboratory results. On-site PCB aroclor screening data will be utilized to select surface soil samples and the background surface soil samples to be submitted for fixed laboratory analysis. Based on the initial screening results, additional samples may be collected. Dedicated or decontaminated sample collection equipment will be used at each sample location to minimize cross-contamination.

VOC field screening will be conducted using a Toxic Vapor Analyzer (Model TVA-1000B, combined PID and FID) and/or a MultiRAE Plus (VOCs, LEL, O_2, CO, and H_2S meters).

Characteristics of each surface soil sample will be documented in a field logbook or field data sheets for future reference.

Based on a review of field screening data and discussions with the EPA SAM and START Lead Chemist, a subset of the surface soil and background surface soil samples collected will be selected (**up to** 40) and submitted to a CLP or DAS Laboratory for manual soxhlet extraction and PCB aroclor analyses. The CLP and DAS laboratory reporting limits for PCB aroclors in soil are included in Appendix B. Proposed surface soil sample properties are illustrated in Figure 4D and presented in Table 10. Descriptions of sample analyses, sample containers, and sample preservation are summarized in Tables 11 and 13.

Table 10
Sample Description/Rationale – Surface Soil Samples

Sample Location	Description/Rationale
MATRIX: Surface Soil	
P001-SS-01 through P001-SS-10	Grab surface soil sample collected using a hand auger from a START Parcel ID No. 1. Each sample will be collected from within 200 feet of, and within the property boundaries of, a residence (to be determined), to determine the presence of any hazardous substances. Depth 0 to 2 feet bgs.
P002-SS-01 through P002-SS-10	Grab surface soil sample collected using a hand auger from a START Parcel ID No. 2. Each sample will be collected from within 200 feet of, and within the property boundaries of, a residence (to be determined), to determine the presence of any hazardous substances. Depth 0 to 2 feet bgs.
P003-SS-01 through P003-SS-10	Grab surface soil sample collected using a hand auger from a START Parcel ID No. 3. Each sample will be collected from within 200 feet of, and within the property boundaries of, a residence (to be determined), to determine the presence of any hazardous substances. Depth 0 to 2 feet bgs.
P004-SS-01 through P004-SS-10	Grab surface soil sample collected using a hand auger from a START Parcel ID No. 4. Each sample will be collected from within 200 feet of, and within the property boundaries of, a residence (to be determined), to determine the presence of any hazardous substances. Depth 0 to 2 feet bgs.
P005-SS-01 through P005-SS-10	Grab surface soil sample collected using a hand auger from a START Parcel ID No. 5. Each sample will be collected from within 200 feet of, and within the property boundaries of, a residence (to be determined), to determine the presence of any hazardous substances. Depth 0 to 2 feet bgs.
P006-SS-01 through P006-SS-10	Grab surface soil sample collected using a hand auger from a START Parcel ID No. 6. Each sample will be collected from within 200 feet of, and within the property boundaries of, a residence (to be determined), to determine the presence of any hazardous substances. Depth 0 to 2 feet bgs.
P007-SS-01 through P007-SS-10	Grab surface soil sample collected using a hand auger from a START Parcel ID No. 7. Each sample will be collected from within 200 feet of, and within the property boundaries of, a residence (to be determined), to determine the presence of any hazardous substances. Depth 0 to 2 feet bgs.
P008-SS-01 through P008-SS-10	Grab surface soil sample collected using a hand auger from a START Parcel ID No. 8. Each sample will be collected from within 200 feet of, and within the property boundaries of, a residence (to be determined), to determine the presence of any hazardous substances. Depth 0 to 2 feet bgs.

Table 10
Sample Description/Rationale – Surface Soil Samples (Continued)

Sample Location	Description/Rationale
MATRIX: Surface Soil (Continued)	
P009-SS-01 through P009-SS-10	Grab surface soil sample collected using a hand auger from a START Parcel ID No. 9. Each sample will be collected from within 200 feet of, and within the property boundaries of, a residence (to be determined), to determine the presence of any hazardous substances. Depth 0 to 2 feet bgs.
P010-SS-01 through P010-SS-10	Grab surface soil sample collected using a hand auger from a START Parcel ID No. 10. Each sample will be collected from within 200 feet of, and within the property boundaries of, a residence (to be determined), to determine the presence of any hazardous substances. Depth 0 to 2 feet bgs.
P011-SS-01 through P011-SS-10	Grab surface soil sample collected using a hand auger from START Parcel ID No. 11. Each sample will be collected from within 200 feet of, and within the property boundaries of, a residence (to be determined), to determine the presence of any hazardous substances. Depth 0 to 2 feet bgs.
P0##-SS-20	Field duplicate of one surface soil sample, collected for quality control purposes (duplicate sample location to be determined in the field based on on-site screening results).
P0##-SS-21	Field duplicate of one surface soil sample, collected for quality control purposes (duplicate sample location to be determined in the field based on on-site screening results).
P0##-SS-22	Field duplicate of one surface soil sample, collected for quality control purposes (duplicate sample location to be determined in the field based on on-site screening results).
P0##-SS-23	Field duplicate of one surface soil sample, collected for quality control purposes (duplicate sample location to be determined in the field based on on-site screening results).
P0##-SS-24	Field duplicate of one surface soil sample, collected for quality control purposes (duplicate sample location to be determined in the field based on on-site screening results).
P0##-SS-25	Field duplicate of one surface soil sample, collected for quality control purposes (duplicate sample location to be determined in the field based on on-site screening results).
P0##-SS-26	Field duplicate of one surface soil sample, collected for quality control purposes (duplicate sample location to be determined in the field based on on-site screening results).
P020-SS-01 through SS-05	Grab soil sample collected using a hand auger from START Parcel ID No. 20, located north of the Jard property, presumably located outside the influence of on-site sources, to establish background concentrations for surface soil and soil/source sample comparisons. Depth 0 to 2 feet bgs.
P021-SS-01 through SS-05	Grab soil sample collected using a hand auger from START Parcel ID No. 21, located north of the Jard property, presumably located outside the influence of on-site sources, to establish background concentrations for surface soil and soil/source sample comparisons. Depth 0 to 2 feet bgs.

Table 10
Sample Description/Rationale – Surface Soil Samples (Concluded)

Sample Location	Description/Rationale
MATRIX: Surface Soil (Concluded)	
P022-SS-01 through SS-05	Grab soil sample collected using a hand auger from START Parcel ID No. 22, located north of the Jard property, presumably located outside the influence of on-site sources, to establish background concentrations for surface soil and soil/source sample comparisons. Depth 0 to 2 feet bgs.
MATRIX: Aqueous QA/QC	
RB-40	Surface soil sampling equipment (hand auger and metal scoop) rinsate blank sample, collected for quality control (Day 1).
RB-41	Surface soil sampling equipment (hand auger and metal scoop) rinsate blank sample, collected for quality control (Day 2).
RB-42	Surface soil sampling equipment (hand auger and metal scoop) rinsate blank sample, collected for quality control (Day 3).
RB-43	Surface soil sampling equipment (hand auger and metal scoop) rinsate blank sample, collected for quality control (Day 4).
RB-44	Surface soil sampling equipment (hand auger and metal scoop) rinsate blank sample, collected for quality control (Day 5).
MATRIX: Performance Evaluation	
PE-30	Solid PE sample for PCB aroclors [Aroclor-1260] (surface soil samples).
PE-31	Solid PE sample for PCB aroclors [Aroclor-1242] (surface soil samples).
PE-32	Solid PE sample for PCB aroclors [Aroclor-1016] (surface soil samples).
PE-33	Solid PE sample for PCB aroclors [Aroclor-1260] (surface soil samples).
PE-34	Solid PE sample for PCB aroclors [Aroclor-1242] (surface soil samples).
PE-35	Solid PE sample for PCB aroclors [Aroclor-1016] (surface soil samples).

QA/QC = Quality Assurance/Quality Control. PCB = Polychlorinated Biphenyl.
ID = Identification. No. =. Number.
bgs = Below Ground Surface.
# = Indicates that the actual property number is to be determined.

Table 11
Sample Analysis, Bottle Type, and Preservative – Surface Soil Samples

Location	Sample Bottles	Analysis	Preservative
MATRIX: Soil/Source			
All Surface Soil (SS) samples	1 × 25-oz poly bag*	PCB Aroclorss	Ice
All Surface Soil (SS) samples	1 × 4-oz amber jar	PCB Aroclors (field)	Ice

Table 11
Sample Analysis, Bottle Type, and Preservative – Surface Soil Samples (Concluded)

Location	Sample Bottles	Analysis	Preservative
MATRIX: Aqueous QA/QC			
RB-40 though RB-44	2 × 1-L amber bottle	PCBs	Ice

PCBs = Polychlorinated Biphenyls.

* Sufficient volume of material will be collected for samples to be submitted for fixed laboratory polychlorinated biphenyl (PCB) aroclor analysis [one 8-ounce (oz) amber jar plus any additional material for quality control volume] and PCB congener analysis (one 4-oz amber jar). Upon review of field screening data results, up to 40 surface soil samples will be selected and material transferred to 8-oz jars for fixed lab PCB aroclor analysis. The remaining bagged material of the samples submitted for fixed laboratory analysis will remain stored pending receipt and review of laboratory results and discussions with the EPA Site Assessment Manager (SAM) and Superfund Technical Assessment and Response Team III (START) lead chemist. Once samples have been selected, the bagged material for the selected samples will be jarred and submitted for PCB aroclor congener analysis. See Table 13 for sample requirements.

5.2.5 Air Pathway

Historical information does not indicate a documented release to air from the Jard property. No current release of hazardous substances to the ambient air from on-site sources is known or suspected, and no impacts to nearby residential populations or sensitive environments are known. Ambient air monitoring for VOCs will be conducted during field activities using a MultiRae Plus (VOCs, LEL, O_2, CO, and H_2S). Based on discussion with the EPA SAM, START does not propose the collection of air samples as part of this site-specific QAPP.

5.2.6 Quality Assurance and Analysis

Table 13 summarizes the analytical methods, sample volume, preservation, holding time, and the quality control samples associated with each parameter. The quality control samples include the following:

Equipment (Rinsate) Blanks – Equipment blanks will be collected at a frequency of one per day per 20 stations, for each type of non-dedicated equipment used in the field. The equipment blank will be submitted for the same parameters as the samples. The equipment blank will be used to evaluate the efficiency of the decontamination procedures in preventing cross-contamination. The specific equipment (rinsate) blank samples are listed in Tables 3, 5, 7, and 10.

Performance Evaluation (PE) Samples – When available, one set of PE samples (3 total samples) will be submitted to each laboratory for every analysis performed. The PE samples will be used to assess the laboratory's ability to accurately identify and quantify target compounds.

Table 12

Project Sampling SOP Reference Table

Reference Number	Standard Operating Procedure Title, Revision Date and/or Number	Originating Organization	Equipment Identification	Modified for Project Work Y or N	Comments
S3-001	Standard Operating Procedure for Surface and Subsurface Soil Sampling, Revision 1.0, March 2006	Weston Solutions, Inc.	Hand Auger	N	
S3-003	Standard Operating Procedure for Sediment Sampling, Revision 1.0, March 2006	Weston Solutions, Inc.	Hand Auger/Core Sampler	N	
S5-005	Standard Operating Procedure for Operation of the Geoprobe Systems Soil Probing Machine	Weston Solutions, Inc.	Geoprobe	N	
S3-020	Standard Operating Procedure for Trimble™ Pathfinder Pro XRS Global Positioning System (GPS) with TSCI Data Logger	Weston Solutions, Inc	GPS	N	
S3-021	Standard Operating Procedure For Industrial Scientific Instruments Model LTX 310 Combustible Gas Indicator/Oxygen Meter (CGI/O_2 Meter)	Weston Solutions, Inc	CGI/O_2 Meter	N	
S3-023	Standard Operating Procedure for Thermo Environmental Instruments Flame Ionization Detector (FID)/Photoionization Detector (PID) Model TVA-1000B Toxic Vapor Analyzer	Weston Solutions, Inc.	TVA-1000B Toxic Vapor Analyzer	N	

Table 13

Sampling Summary, Analytical Methods, and QA/QC Samples
Jard Company Inc
Bennington, Vermont

Matrix	Stations	Analytical Parameter	Volume	Container	Preservative	Method	Holding Time	QA/QC Samples (type, volume, container)	Total No. of Samples	Laboratory	Turnaround Time	Data Validation Level
SO	65	PCB Aroclors	4-oz	Poly Bag	NA	EIA-FLDPCB2	14 days	(4) Field Dup. – 1 × 4-oz poly bag	69	EPA OEME Mobile Lab	1 day	NA
SO	28	PCB Aroclors	8-oz	Amber Jar	NA	SOM01.2	14 days	(2) MS/MSD – 2 × 8-oz amber jars (2) Field Dup. – 1 × 8-oz amber jar (10) RB – 2 × 1-L amber bottle (6) PE – 1 × 1-oz amber bottle	36**	CLP or DAS Lab	21 days	II*
SO	2	PCB Congeners	4-oz	Amber Jar	NA	SOM01.2	14-days	TBD	2	CLP or DAS Lab	21 days	II
GW	9	PCB Aroclors	2 × 1-L	Amber Bottle	NA	SOM01.2	14 days	(1) MS/MSD – 6 × 1-L amber bottle (1) Field Dup. - 2 × 1-L amber bottle (3) RB - 2 × 1-L amber bottle (1) PE - 1 × 1-oz amber bottle	13**	CLP or DAS Lab	21 days	II*
GW	2	PCB Congeners	4-oz	Amber Jar	NA	SOM01.2	14-days	TBD	2	CLP or DAS Lab	21 days	II
SD	28	PCB Aroclors	4-oz	Poly Bag	NA	EIA-FLDPCB2	14 days	(2) Field Dup. - 1 × 4-oz poly bag	30	EPA OEME Mobile Lab	1 day	NA
SD	19	PCB Aroclors	8-oz	Amber Jar	NA	SOM01.2	14 days	(1) MS/MSD – 2 × 8-oz amber jars (1) Field Dup. - 1 × 8-oz amber jar (3) RB - 2 × 1-L amber bottle (3) PE - 1 × 1-oz amber bottle	23**	CLP or DAS Lab	21 days	II*
SD	2	PCB Congeners	4-oz	Amber Jar	NA	SOM01.2	14-days	TBD	2	CLP or DAS Lab	21 days	II

Table 13

Sampling Summary, Analytical Methods, and QA/QC Samples (Concluded)
Jard Company Inc
Bennington, Vermont

Matrix	Stations	Analytical Parameter	Volume	Container	Preservative	Method	Holding Time	QA/QC Samples (type, volume, container)	Total No. of Samples	Laboratory	Turnaround Time	Data Validation Level
SS	125	PCB Aroclors	4-oz	Poly Bag	NA	EIA-FLDPCB2	14 days	(7) Field Dup. - 1 × 4-oz poly bag	127	EPA OEME Mobile Lab	1 day	NA
SS	38	PCB Aroclors	8-oz	Amber Jar	NA	SOM01.2	14 days	(2) MS/MSD – 2 × 8-oz amber jars (2) Field Dup. - 1 × 8-oz amber jar (5) RB - 2 × 1-L amber bottle (6) PE - 1 × 1-oz amber bottle	46**	CLP or DAS Lab	21 days	II*
SS	2	PCB Congeners	4-oz	Amber Jar	NA	SOM01.2	14-days	TBD	2	CLP or DAS Lab	21 days	II
RB	21	PCB Aroclors	2 × 1-L	Amber Bottle	NA	SOM01.2	14 days	(21) RB - 2 × 1-L amber bottle	21	CLP or DAS Lab	21 days	II*

SO = Source.
oz = Ounce.
PE = Performance Evaluation.
Dup. = Duplicate.
NA = Not Applicable.
QA/QC = Quality Assurance/Quality Control.
mL = Milliliter.
SD = Sediment.
RB = Rinsate Blank.
MS/MSD = Matrix Spike/Matrix Spike Duplicate.
CLP = Contract Laboratory Program.
DAS = Deliver of Analytical Services.
Non-RAS = Non-routine analytical services.

* Tier II Data Validation performed by START personnel.
** Total number does not include associated rinsate blanks and MS/MSD samples. MS/MSD samples indicate stations with additional volume only.

Matrix Spike/Matrix Spike Duplicate/Laboratory Duplicate – Extra volume for matrix spike/matrix spike duplicate (MS/MSD) analyses will be collected for all organic parameters. Extra volume for matrix spike/laboratory duplicate (MS/DUP) will be collected for all inorganic parameters. These analyses will help evaluate the laboratory's accuracy and precision with site samples. One MS/MSD or MS/DUP will be analyzed for every 20 samples per matrix. The specific MS/MSD samples will be determined during field sampling.

Field Duplicates - Field duplicates will be collected at a frequency of one pair per every 20 sample stations per matrix. The duplicate sample will be given an individual sample number. The data will be used to evaluate sample homogeneity and laboratory precision. The specific field duplicate stations will be determined during field sampling.

Background Samples - Background samples will be collected upstream or away from the site from areas presumed to be free of site contaminants to document local conditions and to attribute contamination to the site. The background sample stations will be determined during field sampling.

6.0 PROCEDURE

Activities will be conducted in accordance with the site-specific Health and Safety Plan (HASP) which will accompany the field team to the property. During the preparation of this site-specific QAPP, START will utilize SOPs to conduct sampling activities; operate various field screening instruments, field screening kits/methods; conduct geophysical surveys; and provide oversight during monitoring well installation. These SOPs were developed by START and are included in Appendices C through AC in the Generic Program QAPP.

A list of SOPs used to prepare this site-specific QAPP is shown in Table 12, *Project Sampling SOP Reference Table.*

7.0 DECONTAMINATION

Decontamination will be conducted in accordance with the HASP and applicable SOPs. START personnel will decontaminate the sampling equipment, if necessary. Decontamination generally consists of an alconox^{TM} and water wash followed by a distilled water rinse, followed by an isopropanol rinse, followed by a deionized water (DI) final rinse, and air drying. Additionally, where high concentrations of specific substances are anticipated, chemicals such as methanol, hexane, and/or nitric acid may be used in the decontamination process. Recommended procedures for equipment decontamination, described below, will be followed where applicable. At the conclusion of sampling each location, the equipment will be brought to a designated decontamination area and thoroughly decontaminated using the following procedures:

- A physical removal technique will be used to remove any gross contamination present on the equipment. Typically paper towels and brushes will be used for this purpose.

- After removal of gross contamination, equipment will be washed with a non-phosphate detergent solution (such as a 2% Liqui-Nox™ or alconox™ and tap water solution.).
- The washed equipment will be rinsed with tap water (typically from a garden sprayer) to remove all the soap solution.
- The equipment will be rinsed with distilled/deionized (DI) water from a sprayer or squeeze bottle.
- The equipment will be rinsed with isopropyl alcohol that is free from trace organic residues (such as Baker™ capillary-analyzed solvents). Typically a squeeze bottle will be used to dispense the methanol, hexane, or isopropyl alcohol.
- The equipment will be rinsed with methanol or hexane if deemed appropriate.
- The equipment will be allowed to air dry completely.
- The equipment will be rinsed a final time with DI water and allowed to air dry completely.
- The equipment will be visually inspected.

If the equipment is to be stored before use, the equipment will be sealed in a plastic bag to prevent contamination before use. Separate containers will be used for the aqueous wastes and for flammable, non-chlorinated solvents (methanol and hexane) wastes. Proper personal protection will be worn during decontamination procedures and will include gloves, eye protection and protective clothing. Off-site disposal of decontamination wastes and contaminated PPE will be conducted through the Subcontract Agreement established by Region I START for disposal of investigative-derived wastes based on the results of laboratory analyses of samples collected. Non-contaminated wastes will be tightly sealed, double-bagged and disposed of in the START office dumpster.

8.0 DOCUMENTATION

Photographs will be taken to document site conditions. The location and direction from which photographs are taken will be noted in the field logbook, in accordance with the scope of work. Field observations will be recorded in the log book and/or Field Data Sheets, including description of sampling locations and any deviations from the site-specific QAPP. Chain-of-custody will be maintained until samples are relinquished to a courier or to the laboratory assigned to perform the analyses. SCRIBE will be used during sample collection activities to generate labels, create and customizes both CLP and DAS Traffic Reports (TR) and COC reports, and electronically document data needed prior to, during, and after field sampling activities.

The data will be validated in accordance with the Region I Functional Guidelines. The specific level of validations is specified in Table 6. Unless otherwise stated, the validation will be performed by qualified START personnel, with the exception that EPA will provide for the data validation for the dioxin analytical data packages.

9.0 DELIVERABLES

Following completion of field sampling activities, START will prepare a Trip Report documenting observations made during the on-site reconnaissance and during sampling activities; and modifications to the site-specific QAPP. Upon receipt of the analytical data packages from the laboratories performing the analyses, START will perform data validation (usually Tier II criteria) for this project and will then prepare data validation memoranda and spreadsheets summarizing the analytical data. The START SL will review the data validation memoranda and spreadsheets of analytical data for each SDG, list compounds or elements that were detected above reference criteria, and prepare a written text summary and prepare summary tables of the data. The text and tables summarizing the analytical results will be included in the Draft and Final Reports, and in the Draft and Final Preliminary HRS Evaluation Worksheets. The text will provide a summary of the PCBs detected during the sampling event, the number of compounds and/or elements, range of concentrations, results of QC (trip blanks, rinsate blanks, duplicates, matrix spike/matrix spike duplicates) samples, qualifiers, and any problems encountered during the data validation process. Tables will be prepared for each of the pathways (ground water, surface water, soil, and air) and sources where samples are collected.

Table columns include the sample location, compound/element, sample concentration, reference concentration, comments, and action levels. The START SL then determines which substances are attributable to the site and re-evaluates the four environmental pathway sections (ground water, surface water, soil, and air) of the Draft Preliminary HRS Evaluation Worksheets and the final site score is re-calculated.

10.0 SAFETY CONSIDERATIONS

During on-site field activities, either SLs or PLs will be designated as the SHSC. This role is usually reserved for PLs or the more experienced SLs. The primary responsibility of the SHSC is to ensure that START (and Subcontractor) personnel adhere to the site-specific HASP. The SHSC or designee also performs calibration checks of air monitoring/screening instruments. Other team members are assigned various roles and responsibilities as specified in this site-specific QAPP.

11.0 REFERENCES

See Site File for Available Reference documentation.

Appendix A
EPA-New England Data Quality Objectives (DQO) Summary Form

EPA-NE - DQO SUMMARY FORM

A separate Form should be completed for each sampling event. Refer to Attachment A for instructions on completing this form, Attachment B for a complete list of the parameter codes and Attachment C for an example of a completed form.

1. EPA Program: TSCA (CERCLA) RCRA DW NPDES CAA
Other:_____
Projected Date(s) of Sampling Spring (April/May) 2013
EPA Site Manager Martha Bosworth
EPA Case Team Members_____
_____
_____

Site Name Jard Company Inc
Site Location Bennington, Vermont
Assigned Site Latitude/Longitude 42° 53′ 21.5″ north/73° 11′ 21.9″ west
CERCLA Site/Spill Identifier No VTD048141741 (Include Operable Unit)
Phase: ERA SA/SI pre-RI RI (phase I, etc.) FS RD RA post-RA
(circle one) (Other: Site Reassessment)

2. QAPP Title and Revision Date Site Assessment Program Site Specific Quality Assurance Project Plan for Surface and Subsurface Soil/Source, Ground Water, and Sediment Sampling Jard Company Inc, Bennington, Vermont dated 11 January 2013
Approved by: Martha Bosworth Date of Approval: TBD
Title of Approving Official: Site Assessment Manager Organization*: EPA
*If other than EPA, record date approval authority was delegated:_____

EPA Oversight Project (circle one) Y (N)
Confirmatory Analysis for Field Screening (Y) N
Are comparability criteria documented? Y N
Type of EPA Oversight (circle one) PRP or FF Other:_____
If EPA Oversight or Confirmatory: % splits_TBD_____

3.									
a.	Matrix Code[1]	SO	SO	SO	GW	GW	SD	SD	SD
b.	Parameter Code[2]	PCB Aroclors	PCB Aroclors	PCB Congeners	PCB Aroclors	PCB Congeners	PCB Aroclors	PCB Aroclors	PCB Congeners
c.	Preservation Code[3]	5	5	5	5	5	5	5	5
d.	Analytical Services Mechanism	DAS or CLP	DAS or CLP	CLP	DAS or CLP	DAS or CLP	DAS or CLP	DAS or CLP	CLP
e.	No. of Sample Locations	65	28	2	21	2	60	60	60
	Field QC:								
f.	Field Duplicate Pairs	4	2		2	5	5	5	5
g.	Equipment Blanks	See RB	See RB	See RB	See RB	See RB	See RB	See RB	See RB
h.	VOA Trip Blanks	0	0	0	0	0	0	0	0
i.	Cooler Temperature Blanks	1 per cooler	1 per cooler	1 per cooler	1 per cooler	1 per cooler	1 per cooler	1 per cooler	1 per cooler
j.	Bottle Blanks	0	0	0	0	0	0	0	0
k.	Other:_____ _____								
l.	PES sent to Laboratory	NA	6	TBD	3	TBD	NA	3	TBD
	Laboratory QC:								
m.	Reagent Blank	0	0	0	0	0	0	0	0
n.	Duplicate	0	0	0	0	0	0	0	0
o.	Matrix Spike	0	2	0	1	0	1	0	0
p.	Matrix Spike Duplicate	0	2	0	1	0	1	0	0
q.	Other:_____ _____								

4. Site Information
Site Dimensions Approximately 11.26 acres
List all potentially contaminated matrices Surface and subsurface soil, sediment, ground water, and residential surface soil
Range of Depth to Groundwater greater than 5 feet
Soil Types: (Surface) (Subsurface) Other:_____
Sediment Types: Stream Pond Estuary Wetland Other:_____ Expected Soil/Sediment Moisture Content: (High) Low

1. EPA Program: TSCA (CERCLA) RCRA DW NPDES CAA
Other:_____
Projected Date(s) of Sampling Spring (April/May) 2013
EPA Site Manager Martha Bosworth
EPA Case Team Members_____

Site Name Jard Company Inc
Site Location Bennington, Vermont
Assigned Site Latitude/Longitude 42° 53′ 21.5″ north/73° 11′ 21.9″ west
CERCLA Site/Spill Identifier No VTD048141741 (Include Operable Unit)
Phase: ERA SA/SI pre-RI RI (phase I, etc.) FS RD RA post-RA
(circle one) Other: Site Reassessment

2. QAPP Title and Revision Date Site Assessment Program Site Specific Quality Assurance Project Plan for Surface and Subsurface Soil/Source, Ground Water, and Sediment Sampling Jard Company Inc, Bennington, Vermont dated 11 January 2013
Approved by: Martha Bosworth Date of Approval: TBD
Title of Approving Official: Site Assessment Manager Organization*: EPA
*If other than EPA, record date approval authority was delegated:_____

EPA Oversight Project (circle one) Y (N) Type of EPA Oversight (circle one) PRP or FF Other:_____
Confirmatory Analysis for Field Screening (Y) N If EPA Oversight or Confirmatory: % splits_TBD_____
Are comparability criteria documented? Y N

3.									
a.	Matrix Code[1]	SS	SS	SS	RB				
b.	Parameter Code[2]	PCB Aroclors	PCB Aroclors	PCB Congeners	PCB Aroclors				
c.	Preservation Code[3]	5	5	5	5				
d.	Analytical Services Mechanism	DAS or CLP	DAS or CLP	CLP	CLP Non-RAS				
e.	No. of Sample Locations	125	38	2	21				
	Field QC:								
f.	Field Duplicate Pairs	7	2		0				
g.	Equipment Blanks	See RB	See RB	See RB	0				
h.	VOA Trip Blanks	0	0	0	0				
i.	Cooler Temperature Blanks	1 per cooler	1 per cooler	1 per cooler	1 per cooler				
j.	Bottle Blanks	0	0	0	0				
k.	Other:_____								
l.	PES sent to Laboratory	NA	6	TBD	0				
	Laboratory QC:								
m.	Reagent Blank	0	0	0	0				
n.	Duplicate	0	0	0	0				
o.	Matrix Spike	0	2	0	0				
p.	Matrix Spike Duplicate	0	2	0					
q.	Other:_____								

4. Site Information
Site Dimensions Approximately 11.26 acres
List all potentially contaminated matrices Surface and subsurface soil, sediment, ground water, and residential surface soil
Range of Depth to Groundwater greater than 5 feet
Soil Types: (Surface) (Subsurface) Other:_____
Sediment Types: Stream Pond Estuary Wetland Other:_____ Expected Soil/Sediment Moisture Content: (High) Low

When multiple matrices will be sampled during a sampling event, complete Sections 5-10 for each matrix. Matrix Code[1] SO

5. Data Use (circle all that apply) Site Investigation/Assessment PRP Determination Removal Actions
Nature and Extent of Contamination Human and/or Ecological Risk Assessment Remediation Alternatives
Engineering Design Remedial Action
Post-Remedial Action (quarterly monitoring) Other:_____

Draft DQO Summary Form 11/96

6. Summarize DQOs: Collect surface and subsurface soil/source samples from the identified source area (capped former building footprint and excavated staged material) on the property for PCB Aroclors field screening and fixed based laboratory analysis in source areas on the Jard Company Inc property. A subset of samples will be submitted for fixed laboratory analysis with a smaller subset submitted for PCB Congener analysis.

Complete Table if applicable

COCs	Action Levels	Analytical Method-Quantitation Limits
PCB Aroclors (Field Screening)	Above Background (Assumed to be ND)	0.2 mg/Kg
PCB Aroclors (Fixed Lab)	Above Background (Assumed to be ND)	33 ug/kg
PCB Congerners	Above Background (Assumed to be ND)	20 to 100 ng/Kg

7. Sampling Method (circle technique) Bailer Low flow pump (Region I method: Yes No) Peristaltic Pump
Positive Displacement Pump Faucet or Spigot Other:_____
Split Spoon Dredge Trowel Other: Direct sampling

Sampling Procedures (SOP name, No., Rev. #, and date)_____
List Background Sample Locations NA for source samples
Circle: Grab or Composite
"Hot spots" sampled: Yes No

8. Field Data (circle) ORP pH Specific Conductance Dissolved O_2 Temperature Turbidity

Other:_____

9. Analytical Methods and Parameters

Method title/SOP name	Method/SOP Identification number	Revision Date	Target Parameters (VOA, SV, Pest/PCB, Metals, etc.)
PCB Aroclors (Field Screening)	EIA-FLDPCB2.SOP		PCBs
PCB Aroclors	SOM01.2 or DAS Equivalent		PCBs
PCB Congeners	CBC01.0		PCB Congeners

10. Validation Criteria (circle one) 1. Region I, EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses, Part II, III or IV
2. Other Approved Validation Criteria:_____
Validation Tier (circle one) I II III Partial Tier III: _____
Company/Organization Performing Data Validation Weston Solutions, Inc./START III Prime or Subcontractor (circle one)

11. Company Name Weston Solutions, Inc. Contract Number EP-W-05-042
Contract Name (e.g. START, RACS, etc.) START III Work Assignment No. 20114-081-998-0850
Person Completing Form/Title G. Hornok/Lead Project Scientist Date of DQO Summary Form Completion 11 January 2013

When multiple matrices will be sampled during a sampling event, complete Sections 5-10 for each matrix. Matrix Code[1] GW

5. Data Use (circle all that apply) Site Investigation/Assessment PRP Determination Removal Actions
Nature and Extent of Contamination Human and/or Ecological Risk Assessment Remediation Alternatives
Engineering Design Remedial Action
Post-Remedial Action (quarterly monitoring) Other:_____

Draft DQO Summary Form 11/96

6. Summarize DQOs: Collect ground water samples from ground water monitoring wells previously installed on and off the property for PCB Aroclors fixed based laboratory analysis. A subset of samples will be submitted for PCB Congener analysis.

Complete Table if applicable

COCs	Action Levels	Analytical Method-Quantitation Limits
PCB Aroclors (Fixed Lab)	Above Background (Assumed to be ND)	1.0 µg/L
PCB Congeners	Above Background (Assumed to be ND)	100 to 1,000 pg/L

7. Sampling Method (circle technique) Bailer Low flow pump (Region I method: Yes No) Peristaltic Pump
Positive Displacement Pump Faucet or Spigot Other:_____
Split Spoon Dredge Trowel Other:_____

Sampling Procedures (SOP name, No., Rev. #, and date)_____
List Background Sample Locations Ground Water monitoring wells TBD
Circle: Grab or Composite
"Hot spots" sampled: Yes No

8. Field Data (circle) ORP pH Specific Conductance Dissolved O_2 Temperature Turbidity
Other:_____

9. Analytical Methods and Parameters

Method title/SOP name	Method/SOP Identification number	Revision Date	Target Parameters (VOA, SV, Pest/PCB, Metals, etc.)
PCB Aroclors	SOM01.2 or DAS Equivalent		PCBs
PCB Congeners	CBC01.0		PCB Congeners

10. Validation Criteria (circle one) 1. Region I, EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses, Part II, III or IV
2. Other Approved Validation Criteria:_____
Validation Tier (circle one) I II III Partial Tier III: _____
Company/Organization Performing Data Validation Weston Solutions, Inc./START III Prime or Subcontractor (circle one)

11. Company Name Weston Solutions, Inc. Contract Number EP-W-05-042
Contract Name (e.g. START, RACS, etc.) START III Work Assignment No. 20114-081-998-0850
Person Completing Form/Title G. Hornok/Lead Project Scientist Date of DQO Summary Form Completion 11 January 2013

When multiple matrices will be sampled during a sampling event, complete Sections 5-10 for each matrix. Matrix Code[1] SD

5. Data Use (circle all that apply) Site Investigation/Assessment PRP Determination Removal Actions
Nature and Extent of Contamination Human and/or Ecological Risk Assessment Remediation Alternatives
Engineering Design Remedial Action
Post-Remedial Action (quarterly monitoring) Other:_____

Draft DQO Summary Form 11/96

6. Summarize DQOs: Collect sediment samples from a wetland located west of Park Street for PCB Aroclors field screening and fixed based laboratory analysis. A subset of samples will be submitted for fixed laboratory analysis with a smaller subset submitted for PCB Congener analysis.

Complete Table if applicable

COCs	Action Levels	Analytical Method-Quantitation Limits
PCB Aroclors (Field Screening)	Above Background (Assumed to be ND)	0.2 mg/Kg
PCB Aroclors (Fixed Lab)	Above Background (Assumed to be ND)	33 ug/kg
PCB Congerners	Above Background (Assumed to be ND)	20 to 100 ng/Kg

7. Sampling Method (circle technique) Bailer Low flow pump (Region I method: Yes No) Peristaltic Pump
Positive Displacement Pump Faucet or Spigot Other:_____
Split Spoon Dredge Trowel (Other: Direct sampling)

Sampling Procedures (SOP name, No., Rev. #, and date)_____
List Background Sample Locations Wetalnd area northeast of the Jard Company Inc property
Circle: Grab or Composite
"Hot spots" sampled: (Yes) No

8. Field Data (circle) ORP pH Specific Conductance Dissolved O_2 Temperature Turbidity

Other:_____

9. Analytical Methods and Parameters

Method title/SOP name	Method/SOP Identification number	Revision Date	Target Parameters (VOA, SV, Pest/PCB, Metals, etc.)
PCB Aroclors (Field Screening)	SOM01.2		PCBs
PCB Aroclors	SOM01.2 or DAS Equivalent		PCBs
Total Metals (including Hg)	CBC01.0		PCB Congeners

10. Validation Criteria (circle one) 1. Region I, EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses, Part II, III or IV
2. Other Approved Validation Criteria:_____
Validation Tier (circle one) I (II) III Partial Tier III: _____
Company/Organization Performing Data Validation Weston Solutions, Inc./START III (Prime) or Subcontractor (circle one)

11. Company Name Weston Solutions, Inc. Contract Number EP-W-05-042
Contract Name (e.g. START, RACS, etc.) START III Work Assignment No. 20114-081-998-0850
Person Completing Form/Title G. Hornok/Lead Project Scientist Date of DQO Summary Form Completion 11 January 2013

When multiple matrices will be sampled during a sampling event, complete Sections 5-10 for each matrix. Matrix Code[1] SS

5. Data Use (circle all that apply) Site Investigation/Assessment PRP Determination Removal Actions
Nature and Extent of Contamination Human and/or Ecological Risk Assessment Remediation Alternatives
Engineering Design Remedial Action
Post-Remedial Action (quarterly monitoring) Other:_____

Draft DQO Summary Form 11/96

6. Summarize DQOs: Collect surface soil samples from residential properties downgradient of the Jard Companry Inc property and within 200 feet of the residences for PCB Aroclors field screening and fixed based laboratory analysis in source areas on the Jard Company Inc property. A subset of samples will be submitted for fixed laboratory analysis with a smaller subset submitted for PCB Congener analysis.

Complete Table if applicable

COCs	Action Levels	Analytical Method-Quantitation Limits
PCB Aroclors (Field Screening)	Above Background (Assumed to be ND)	0.2 mg/Kg
PCB Aroclors (Fixed Lab)	Above Background (Assumed to be ND)	33 ug/kg
PCB Congerners	Above Background (Assumed to be ND)	20 to 100 ng/Kg

7. Sampling Method (circle technique) Bailer Low flow pump (Region I method: Yes No) Peristaltic Pump
Positive Displacement Pump Faucet or Spigot Other:_____
Split Spoon Dredge Trowel Other: Direct sampling

Sampling Procedures (SOP name, No., Rev. #, and date)_____
List Background Sample Locations Residential properties located north of the Jard Company Inc property
Circle: Grab or Composite
"Hot spots" sampled: Yes No

8. Field Data (circle) ORP pH Specific Conductance Dissolved O_2 Temperature Turbidity

Other:_____

9. Analytical Methods and Parameters

Method title/SOP name	Method/SOP Identification number	Revision Date	Target Parameters (VOA, SV, Pest/PCB, Metals, etc.)
PCB Aroclors (Field Screening)	SOM01.2		PCBs
PCB Aroclors	SOM01.2 or DAS Equivalent		PCBs
Total Metals (including Hg)	CBC01.0		PCB Congeners

10. Validation Criteria (circle one) 1. Region I, EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses, Part II, III or IV
2. Other Approved Validation Criteria:_____
Validation Tier (circle one) I II III Partial Tier III: _____
Company/Organization Performing Data Validation Weston Solutions, Inc./START III Prime or Subcontractor (circle one)

11. Company Name Weston Solutions, Inc. Contract Number EP-W-05-042
Contract Name (e.g. START, RACS, etc.) START III Work Assignment No. 20114-081-998-0850
Person Completing Form/Title G. Hornok/Lead Project Scientist Date of DQO Summary Form Completion 11 January 2013

Matrix Codes[1] - Refer to Attachment B, Part I
Parameter Codes[2] - Refer to Attachment B, Part II

Preservation Codes[3]

1. HCl to pH ≤ 2
2. HNO_3
3. $NaHSO_4$
4. H_2SO_4
5. Cool @ 4°C (± 2°)
6. NaOH
7. $K_2Cr_2O_7$
8. Freeze
9. Room Temperature (avoid excessive heat)
10. Other (Specify)
N. Not preserved

* - To supplement Matrix Codes and/or Parameter Codes contact the QA Unit

Appendix B
Contract Laboratory Program (CLP) and Delivery of Analytical Services (DAS)
Laboratory Reporting Limits for
Soil/Source/Sediment and Ground Water Samples Polychlorinated Biphenyl (PCB) Aroclors
Analysis

4.0 AROCLORS TARGET COMPOUND LIST AND CONTRACT REQUIRED QUANTITATION LIMITS[1]

Aroclors	CAS Number	Quantitation Limits Water µg/L	Quantitation Limits Soil µg/kg
141. Aroclor-1016	12674-11-2	1.0	33
142. Aroclor-1221	11104-28-2	1.0	33
143. Aroclor-1232	11141-16-5	1.0	33
144. Aroclor-1242	53469-21-9	1.0	33
145. Aroclor-1248	12672-29-6	1.0	33
146. Aroclor-1254	11097-69-1	1.0	33
147. Aroclor-1260	11096-82-5	1.0	33
148. Aroclor-1262	37324-23-5	1.0	33
149. Aroclor-1268	11100-14-4	1.0	33

[1]There is no differentiation between the preparation of low and medium soil samples in this method for the analysis of Aroclors.

Table 1. Target Compound List (TCL) and Estimated Contract Required Quantitation Limits (CRQLs)

CB Congener[1]	IUPAC Number	Water (pg/L)	Other (ng/kg)	Extract (pg/µL)
Monochlorobiphenyls				
2-MoCB	1	200	20	10
3-MoCB	2	10	1	0.5
4-MoCB	3	200	20	10
Dichlorobiphenyls				
2,2'-DiCB	4	500	50	25
2,3-DiCB	5	50	5	2
2,3'-DiCB	6	50	5	2
2,4-DiCB	7	50	5	2
2,4'-DiCB[2]	8	500	50	25
2,5-DiCB	9	50	5	2
2,6-DiCB	10	50	5	2
3,3'-DiCB	11	200	20	10
3,4-DiCB	12	100	10	5
3,4'-DiCB	13	100	10	5
3,5-DiCB	14	100	10	5
4,4'-DiCB	15	500	50	25
Trichlorobiphenyls				
2,2',3-TrCB	16	100	10	5
2,2',4-TrCB	17	200	20	10
2,2',5-TrCB[2]	18	500	50	25
2,2',6-TrCB	19	100	10	5
2,3,3'-TrCB	20	500	50	25
2,3,4-TrCB	21	200	20	10
2,3,4'-TrCB	22	200	20	10
2,3,5-TrCB	23	200	20	10
2,3,6-TrCB	24	200	20	10
2,3',4-TrCB	25	200	20	10
2,3',5-TrCB	26	200	20	10
2,3',6-TrCB	27	200	20	10
2,4,4'-TrCB[2]	28	500	50	25
2,4,5-TrCB	29	200	20	10
2,4,6-TrCB	30	500	50	25
2,4',5-TrCB	31	500	50	25
2,4',6-TrCB	32	200	20	10
2',3,4-TrCB	33	200	20	10
2'3,5-TrCB	34	200	20	10
3,3',4-TrCB	35	200	20	10
3,3',5-TrCB	36	200	20	10
3,4,4'-TrCB	37	500	50	25
3,4,5-TrCB	38	200	20	10
3,4',5-TrCB	39	200	20	10
Tetrachlorobiphenyls				
2,2',3,3'-TeCB	40	500	50	25
2,2',3,4-TeCB	41	500	50	25
2,2',3,4'-TeCB	42	200	20	10
2,2',3,5-TeCB	43	200	20	10
2,2',3,5'-TeCB[2]	44	500	50	25
2,2',3,6-TeCB	45	200	20	10
2,2',3,6'-TeCB	46	200	20	10

Table 1. Target Compound List (TCL) and Contract Required Quantitation Limits (CRQLs) Con't

CB Congener[1]	IUPAC Number	Water (pg/L)	Other (ng/kg)	Extract (pg/µL)
2,2',4,4'-TeCB	47	500	50	25
2,2',4,5-TeCB	48	200	20	10
2,2',4,5'-TeCB	49	500	50	25
2,2',4,6-TeCB	50	200	20	10
2,2',4,6'-TeCB	51	200	20	10
2,2',5,5'-TeCB[2]	52	500	50	25
2,2',5,6'-TeCB	53	200	20	10
2,2',6,6'-TeCB	54	500	50	25
2,3,3',4'-TeCB	55	500	50	25
2,3,3',4'-TeCB	56	200	20	10
2,3,3',5-TeCB	57	500	50	25
2,3,3',5'-TeCB	58	500	50	25
2,3,3',6-TeCB	59	200	20	10
2,3,4,4'-TeCB	60	500	50	25
2,3,4,5-TeCB	61	500	50	25
2,3,4,6-TeCB	62	200	20	10
2,3,4',5-TeCB	63	500	50	25
2,3,4',6-TeCB	64	200	20	10
2,3,5,6-TeCB	65	500	50	25
2,3',4,4'-TeCB[2]	66	500	50	25
2,3',4,5-TeCB	67	500	50	25
2,3',4,5'-TeCB	68	500	50	25
2,3',4,6-TeCB	69	500	50	25
2,3',4',5-TeCB	70	500	50	25
2,3',4',6-TeCB	71	500	50	25
2,3',5,5'-TeCB	72	500	50	25
2,3',5',6-TeCB	73	500	50	25
2,4,4',5-TeCB	74	500	50	25
2,4,4',6-TeCB	75	200	20	10
2',3,4,5-TeCB	76	500	50	25
3,3',4,4'-TeCB [2,3]	77	500	50	25
3,3',4,5-TeCB	78	500	50	25
3,3',4,5'-TeCB	79	500	50	25
3,3',5,5'-TeCB	80	500	50	25
3,4,4',5-TeCB[3]	81	500	50	25
Pentachlorobiphenyls				
2,2',3,3',4-PeCB	82	500	50	25
2,2',3,3',5-PeCB	83	500	50	25
2,2',3,3',6-PeCB	84	500	50	25
2,2',3,4,4'-PeCB	85	200	20	10
2,2',3,4,5-PeCB	86	500	50	25
2,2',3,4,5'-PeCB	87	500	50	25
2,2',3,4,6-PeCB	88	500	50	25
2,2',3,4,6'-PeCB	89	500	50	25
2,2',3,4',5-PeCB	90	1000	100	50
2,2',3,4',6-PeCB	91	500	50	25
2,2',3,5,5'-PeCB	92	500	50	25
2,2',3,5,6-PeCB	93	500	50	25
2,2',3,5,6'-PeCB	94	500	50	25

Table 1. Target Compound List (TCL) and Contract Required Quantitation Limits (CRQLs) Con't

CB Congener[1]	IUPAC Number	Water (pg/L)	Other (ng/kg)	Extract (pg/µL)
2,2',3,5',6-PeCB	95	500	50	25
2,2',3,6,6'-PeCB	96	500	50	25
2,2',3',4,5-PeCB	97	500	50	25
2,2',3',4,6-PeCB	98	500	50	25
2,2',4,4',5-PeCB	99	500	50	25
2,2',4,4',6-PeCB	100	500	50	25
2,2',4,5,5'-PeCB[2]	101	1000	100	50
2,2',4,5,6'-PeCB	102	500	50	25
2,2',4,5,'6-PeCB	103	500	50	25
2,2',4,6,6'-PeCB	104	500	50	25
2,3,3',4,4'-PeCB[2,3]	105	200	20	10
2,3,3',4,5-PeCB	106	500	50	25
2,3,3',4',5-PeCB	107	1000	100	50
2,3,3',4,5'-PeCB	108	500	50	25
2,3,3',4,6-PeCB	109	200	20	10
2,3,3',4',6-PeCB	110	1000	100	50
2,3,3',5,5'-PeCB	111	1000	100	50
2,3,3',5,6-PeCB	112	1000	100	50
2,3,3',5',6-PeCB	113	1000	100	50
2,3,4,4',5-PeCB[3]	114	500	50	25
2,3,4,4',6-PeCB	115	1000	100	50
2,3,4,5,6-PeCB	116	200	20	10
2,3,4',5,6-PeCB	117	200	20	10
2,3',4,4',5-PeCB[2,3]	118	500	50	25
2,3',4,4',6-PeCB	119	500	50	25
2,3',4,5,5'-PeCB	120	500	50	25
2,3',4,5,'6-PeCB	121	500	50	25
2',3,3',4,5-PeCB	122	500	50	25
2',3,4,4',5-PeCB[3]	123	500	50	25
2',3,4,5,5'-PeCB	124	1000	100	50
2',3,4,5,6'-PeCB	125	500	50	25
3,3',4,4',5-PeCB[2,3]	126	500	50	25
3,3',4,5,5'-PeCB	127	1000	100	50
Hexachlorobiphenyls				
2,2',3,3',4,4'-HxCB[2]	128	500	50	25
2,2',3,3',4,5-HxCB	129	500	50	25
2,2',3,3',4,5'-HxCB	130	500	50	25
2,2',3,3',4,6-HxCB	131	500	50	25
2,2',3,3',4,6'-HxCB	132	500	50	25
2,2',3,3',5,5'-HxCB	133	500	50	25
2,2',3,3',5,6-HxCB	134	500	50	25
2,2',3,3',5,6'-HxCB	135	500	50	25
2,2',3,3',6,6'-HxCB	136	200	20	10
2,2',3,4,4',5-HxCB	137	1000	100	50
2,2',3,4,4',5'-HxCB[2]	138	500	50	25
2,2',3,4,4',6-HxCB	139	500	50	25
2,2',3,4,4',6'-HxCB	140	500	50	25
2,2',3,4,5,5'-HxCB	141	200	20	10
2,2',3,4,5,6-HxCB	142	1000	100	50
2,2',3,4,5,6'-HxCB	143	500	50	25
2,2',3,4,5',6-HxCB	144	500	50	25

Table 1. Target Compound List (TCL) and Contract Required Quantitation Limits (CRQLs) Con't

CB Congener[1]	IUPAC Number	Water (pg/L)	Other (ng/kg)	Extract (pg/µL)
2,2',3,4,6,6'-HxCB	145	1000	100	50
2,2',3,4',5,5'-HxCB	146	500	50	25
2,2',3,4',5,6-HxCB	147	500	50	25
2,2',3,4',5,6',-HxCB	148	1000	100	50
2,2',3,4',5',6-HxCB	149	500	50	25
2,2',3,4',6,6'-HxCB	150	1000	100	50
2,2',3,5,5',6-HxCB	151	500	50	25
2,2',3,5,6,6'-HxCB	152	1000	100	50
2,2',4,4',5,5'-HxCB[2]	153	500	50	25
2,2',4,4',5',6-HxCB	154	500	50	25
2,2',4,4',6,6'-HxCB	155	1000	100	50
2,3,3',4,4',5-HxCB[3]	156	500	50	25
2,3,3',4,4',5'-HxCB[3]	157	500	50	25
2,3,3',4,4',6-HxCB	158	200	20	10
2,3,3',4,5,5'-HxCB	159	1000	100	50
2,3,3',4,5,6-HxCB	160	500	50	25
2,3,3',4,5',6-HxCB	161	1000	100	50
2,3,3',4',5,5'-HxCB	162	1000	100	50
2,3,3',4',5,6-HxCB	163	500	50	25
2,3,3',4',5',6-HxCB	164	500	50	25
2,3,3',5,5',6-HxCB	165	1000	100	50
2,3,4,4',5,6-HxCB	166	500	50	25
2,3',4,4',5,5'-HxCB[3]	167	500	50	25
2,3',4,4',5',6-HxCB	168	500	50	25
3,3',4,4',5,5'-HxCB[2,3]	169	500	50	25
Heptachlorobiphenyls				
2,2',3,3',4,4',5-HpCB[2]	170	500	50	25
2,2'3,3',4,4',6-HpCB	171	1000	100	50
2,2',3,3',4,5,5'-HpCB	172	1000	100	50
2,2',3,3',4,5,6-HpCB	173	1000	100	50
2,2',3,3',4,5,6'-HpCB	174	500	50	25
2,2',3,3',4,5',6-HpCB	175	1000	100	50
2,2',3,3',4,6,6'-HpCB	176	1000	100	50
2,2',3,3',4',5,6-HpCB	177	500	50	25
2,2',3,3',5,5',6-HpCB	178	500	50	25
2,2',3,3',5,6,6'-HpCB	179	500	50	25
2,2',3,4,4',5,5'-HpCB[2]	180	500	50	25
2,2',3,4,4',5,6-HpCB	181	1000	100	50
2,2',3,4,4',5,6'-HpCB	182	1000	100	50
2,2',3,4,4',5',6-HpCB	183	1000	100	50
2,2',3,4,4',6,6'-HpCB	184	1000	100	50
2,2',3,4,5,5',6-HpCB	185	1000	100	50
2,2',3,4,5,6,6'-HpCB	186	1000	100	50
2,2',3,4',5,5',6-HpCB[2]	187	500	50	25
2,2',3,4',5,6,6'-HpCB	188	500	50	25
2,3,3',4,4',5,5'-HpCB[3]	189	500	50	25
2,3,3',4,4',5,6-HpCB	190	500	50	25
2,3,3',4,4',5',6-HpCB	191	1000	100	50
2,3,3',4,5,5',6-HpCB	192	1000	100	50
2,3,3',4',5,5',6-HpCB	193	500	50	25

Table 1. Target Compound List (TCL) and Contract Required Quantitation Limits (CRQLs) Con't

CB Congener[1]	IUPAC Number	Water (pg/L)	Other (ng/kg)	Extract (pg/µL)
Octachlorobiphenyls				
2,2',3,3',4,4',5,5'-OcCB	194	500	50	25
2,2',3,3',4,4',5,6-OcCB[2]	195	1000	100	50
2,2',3,3',4,4',5,6'-OcCB	196	1000	100	50
2,2',3,3',4,4',6,6'-OcCB	197	1000	100	50
2,2',3,3',4,5,5',6-OcCB	198	500	50	25
2,2',3,3',4,5,5',6'-OcCB	199	500	50	25
2,2',3,3',4,5,6,6'-OcCB	200	1000	100	50
2,2',3,3',4,5',6,6'-OcCB	201	1000	100	50
2,2',3,3',5,5',6,6'-OcCB	202	1000	100	50
2,2',3,4,4',5,5',6-OcCB	203	1000	100	50
2,2',3,4,4',5,6,6'-OcCB	204	1000	100	50
2,3,3',4,4',5,5',6-OcCB	205	1000	100	50
Nonachlorobiphenyls				
2,2',3,3',4,4',5,5',6-NoCB[2]	206	1000	100	50
2,2',3,3',4,4',5,6,6'-NoCB	207	1000	100	50
2,2',3,3',4,5,5',6,6'-NoCB	208	1000	100	50
Decachlorobiphenyls				
DeCB[2]	209	500	50	25

[1]Abbreviations for chlorination levels:
MoCB = monochlorobiphenyl
DiCB = dichlorobiphenyl
TrCB = trichlorobiphenyl
TeCB = tetrachlorbiphenyl
PeCB = pentachlorobiphenyl
HxCB = hexachlorobiphenyl
HpCB = heptachlorobiphenyl
OcCB = octachlorobiphenyl
NoCB = nonachlorobiphenyl
DeCB = decachlorobiphenyl

[2]National Oceanic and Atmospheric Administration (NOAA) Congener of Interest.

[3]World Health Organization (WHO) Toxic Congener.

NOTE: The values in these tables are quantitation limits, not absolute detection limits. The amount of material necessary to produce a detector response that can be identified and reliably quantified is greater than that needed to be simply detected above the background noise. The quantitation limits in these tables are set at the concentrations in the sample equivalent to the concentration of the lowest calibration standard analyzed for each analyte.

Specific quantitation limits are highly matrix-dependent. The quantitation limits listed herein are provided for guidance and may not always be achievable.

These CRQL values are based on the analysis of samples according to the specifications given in the CB congeners SOW. Sample data are reported on a dry weight basis for all non-aqueous samples [except tissues which are reported on a wet weight basis, along with their Percent Lipid (% Lipid) content].

Appendix C
The Johnson Company, PCBs in Ground Water, Maps

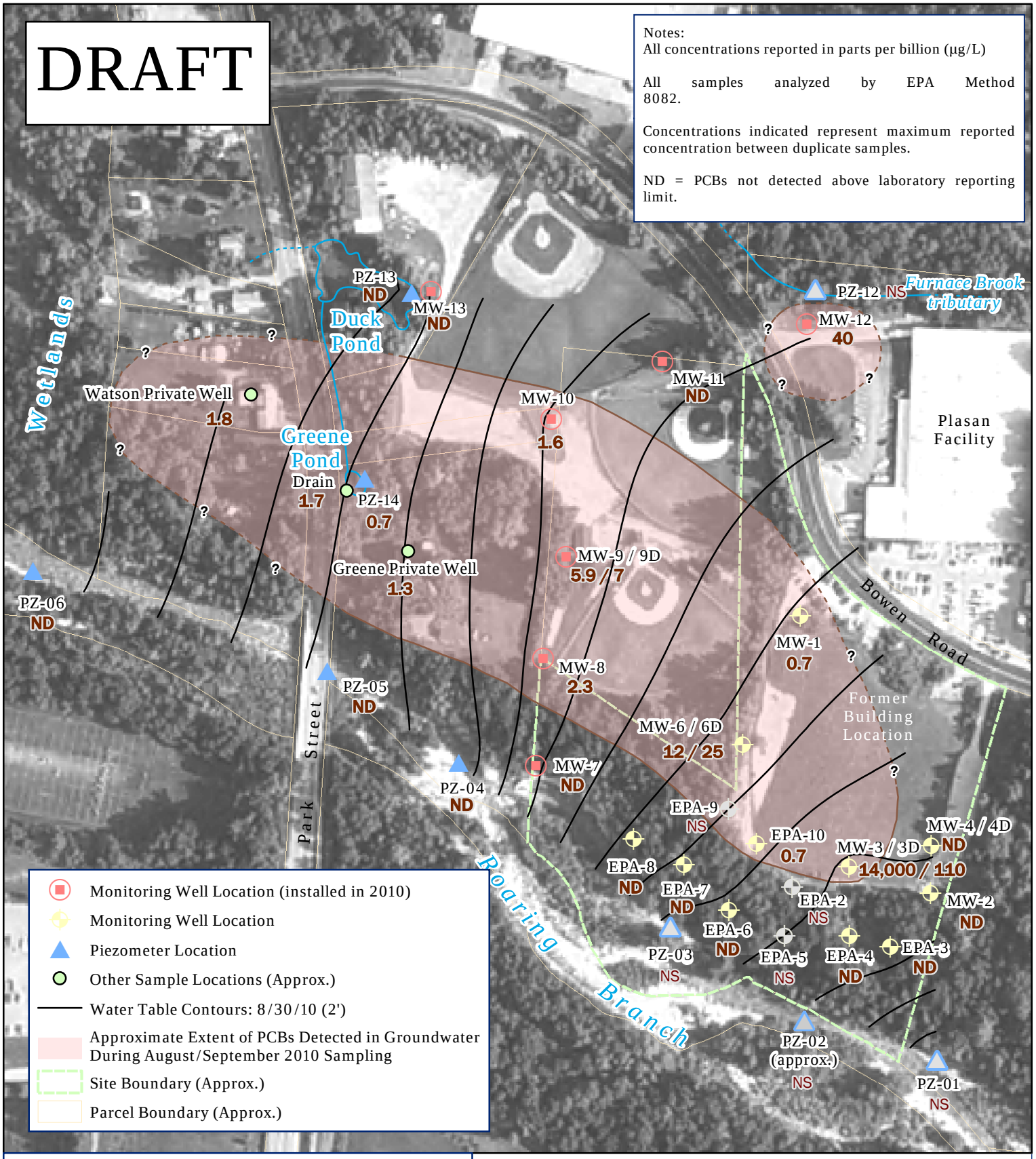


Figure 8: PCB Concentrations in Groundwater (µg/L)
August-September 2010
Jard Company Site: Bennington, Vermont

The Johnson Company

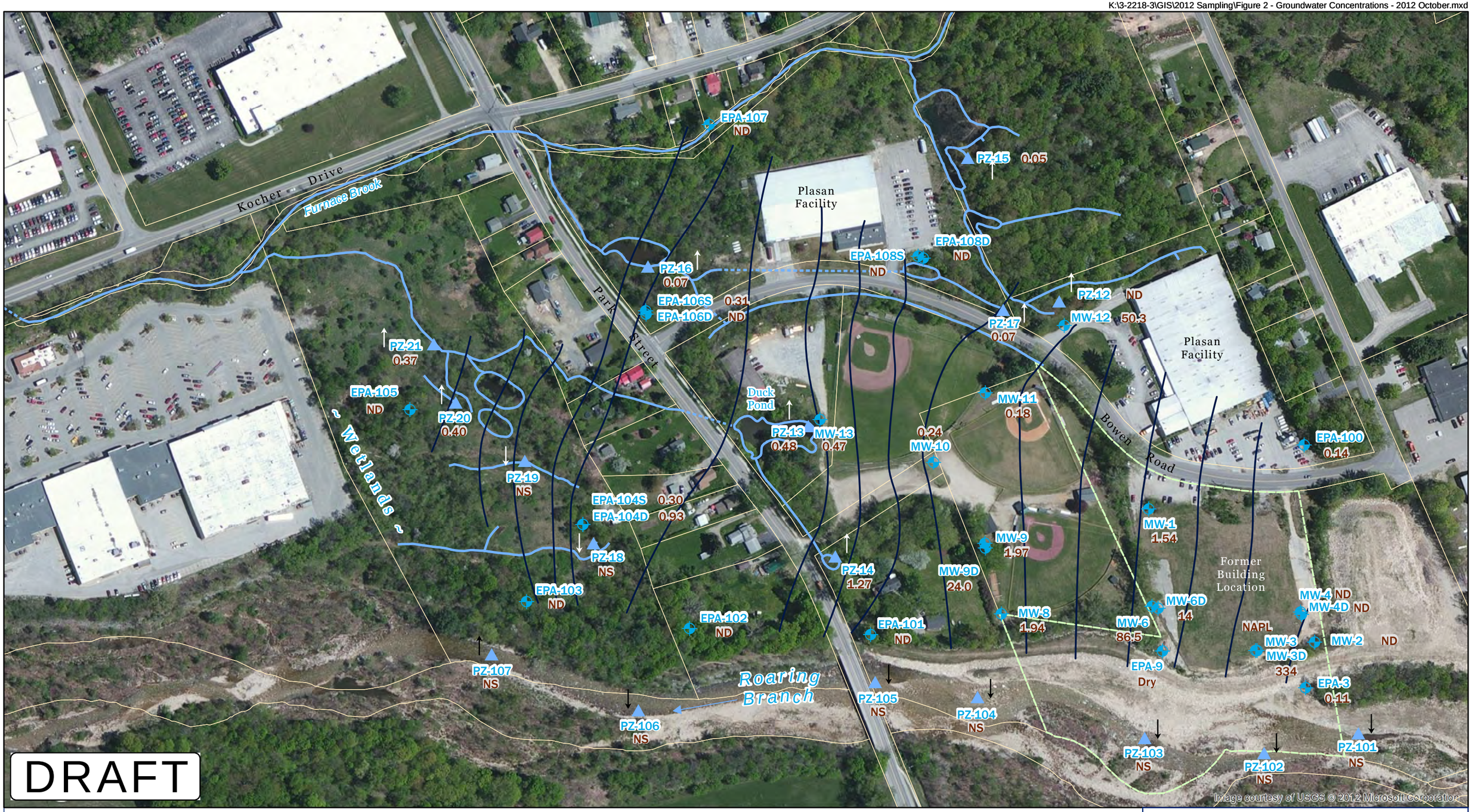
100 State Street, Suite 600
Montpelier, VT 05602

Drawn by: DPB Date: 10/07/10
Reviewed by: MBM Date: 12/02/10

Scale: 1" = 200' Project: 3-2218-3

Sources:
Parcel boundaries from Vermont Center for Geographic Information
Sampling locations from Johnson Company GPS survey, 8/30/2010, except where noted as approximate
Aerial photography from National Agricultural Imagery Program, 2009

K:\3-2218-3\GIS\2012 Sampling\Figure 2 - Groundwater Concentrations - 2012 October.mxd



N

0 100 200 400

Scale in Feet

Sources:
Parcel boundaries from Vermont Center for Geographic Information.

Aerial photography from ArcGIS Online Bing basemap service.
HRS Reference #9

- Monitoring Well Location
- Piezometer Location
- Former Monitoring Well Location
- Former Piezometer Location
- Site Boundary (Approx.)
- Parcel Boundary (Approx.)
- Surface Water Features
- Water Table Potentiometric Contour (2 feet) *(Preliminary, based on partial data set)*

Notes:
Locations are approximate.

Total PCB concentrations determined by EPA Method 8082.

Concentrations reported in micrograms per liter (µg/L).

Preliminary potentiometric contours based on monitoring wells and PZ-12 through PZ-14 only.

Arrows adjacent to piezometer locations indicate vertical gradient direction between groundwater and surface water.

PCB Concentrations in Groundwater (µg/L)
October 2012
Former Jard Company Site: Bennington, Vermont

The Johnson Company

100 State Street, Suite 600
Montpelier, VT 05602

Drawn by: DPB Date: 11/20/12
Reviewed by: Date:

Scale: 1" = 200' Project: 3-2218-5